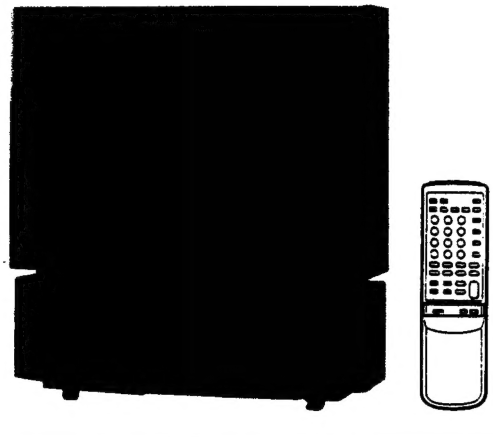
KPR-S46MH1/S53MH1

~~RM-821~~

SERVICE MANUAL

Hong Kong Model

KPR-S46MH1
Chassis No. SCC-F63A-A
KPR-S53MH1
Chassis No. SCC-F65A-A



KiRARA BASSO

AP-2 CHASSIS

SPECIFICATIONS

Structure	Screen and projector, rear projection type
Projection system	3 picture tubes, 3 lenses, horizontal in-line system
Picture tube	7-inch, High-brightness monochrome tubes (5.5 raster size), with optical coupling and liquid cooling system
Projection lenses	High performance, large-diameter hybrid lens F 1.0
Screen material	Plastic lenticular, Plastic fresnel
Television standard	B/G, SECAM, NTSC$_{4.43}$, NTSC$_{3.58}$
NICAM stereo system	I system
Antenna	75-ohm external antenna terminal
Speakers	Woofer 13 cm Tweeter 2.5 cm

Model	KPR-S46MH1	KPR-S53MH1
Resolution	859 lines	900 lines
Projected picture size (measured diagonally)	46 inches	53 inches
Screen brightness	1,644 cd/m²	1,233 cd/m²
Dimensions (w/h/d)	1103.9 x 1289.1 x 506.8 mm	1237.9 x 1301.9 x 609.6 mm
Mass	73 kg	85 kg

Power requirements	120/240 V AC, 50/60 Hz
Power consumption	335 W
Accessories supplied	RM-821 Remote Commander (1) R6 batteries (2) Power cord plug adaptor (2)
Optional accessories	RM-829 Remote Commander

Inputs

Jack	S VIDEO	VIDEO	AUDIO L/R
VIDEO 1	4-pin mini DIN Y: 1 Vp-p, 75 ohms, unbalanced, sync negative C: 0.286 Vp-p, 75 ohms	Phono jack 1 Vp-p, 75 ohms, unbalanced, sync negative	0.5 Vrms (standard level, 47 kiloohms)
VIDEO 2			
VIDEO 3	—		
VIDEO 4	4-pin mini DIN Y: 1 Vp-p, 75 ohms, unbalanced, sync negative C: 0.286 Vp-p, 75 ohms		

MODELS OF THE SAME SERIES	
KPR-S46MH1/S53MH1	

Output

Jack	S VIDEO	VIDEO	AUDIO L/R
VIDEO 1	4-pin mini DIN Y: 1 Vp-p, 75 ohms, unbalanced, sync negative C: 0.286 Vp-p, 75 ohms	1 Vp-p, 75 ohms, unbalanced, sync negative	0.5 Vrms (standard level, 5 kiloohms or less)
VIDEO 2			
VIDEO 4			
MONITOR			
AUDIO OUT	—	—	

Design and specifications are subject to change without notice.

MICROFILM

PROJECTION TV

SONY®

Channel Coverage

MIDDLE EAST/ASIA (B/G, H)

Receivable Channel	Channel Display
E-2 to E-12	C02 to C12
E-21 to E-69	C21 to C69
Indonesia	
2 to 11	C03 to C12
Morocco	
M-4 to M-7	C70 to C73
M-8 to M-10	C8 to C10
New Zealand	
2	C03
3	C04
4 to 9	C05 to C10

CATV W. EUROPE (B/G, H)

Receivable Channel	Channel Display
S-01 to S-03	C42 to C44
S-1 to S-41	C01 to C41

AUSTRALIA (B/G, H)

Receivable Channel	Channel Display
Australia	
AS-0 to AS-11	C00 to C11
AS-5A	C12
AS-28 to AS-69	C28 to C69
New Zealand	
2 to 3	C01 to C02
4 to 7	C06 to C09
8	C13
9	C10

HK/UK (I)

Receivable Channel	Channel Display
Hong Kong, United Kingdom	
B-21 to B-68	C21 to C68
Ireland	
B,C,..., J	C02, C03,..., C09
South Africa	
4 to 13	C04 to C13
21 to 68	C21 to C68

E.EUROPE/CHINA (D/K)

Receivable Channel	Channel Display
East European countries	
R-1 to R-12	C01 to C12
R-21 to R-60	C21 to C60
China	
C-1	C01
C-2	C02
C-3	C13
C-4	C03
C-5	C04
C-6	C14
C-7 to C-12	C06 to C11
C-13 to C-24	C21 to C32
C-25 to C-47	C38 to C60
C-48 to C-57	C61 to C70

AMERICA (M)

Receivable Channel	Channel Display
2 to 83	C02 to C83

CATV AMERICA (M)

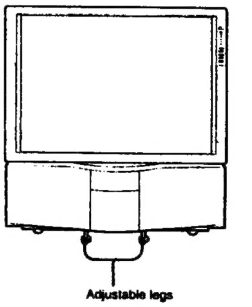
Receivable Channel	Channel Display
2 to 13	C02 to C13
A-1	C99
A-2	C98
A-3	C97
A-4	C96
A-5	C95
A-6	C06
A-7	C05
A-8	C01
A, B,..., W	C14, C15,..., C36
AA,..., CCC	C37,..., C65

JAPAN

Receivable Channel	Channel Display
J-1 to J-62	C01 to C62
C-13 to C-32	C80 to C99

Stabilizing the Projection TV

The TV should be installed so that it is as level as possible, for safety purposes. After setting up, always lower the two adjustable legs located at the bottom, by turning the legs to the left, to stabilize the TV.



CAUTION

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

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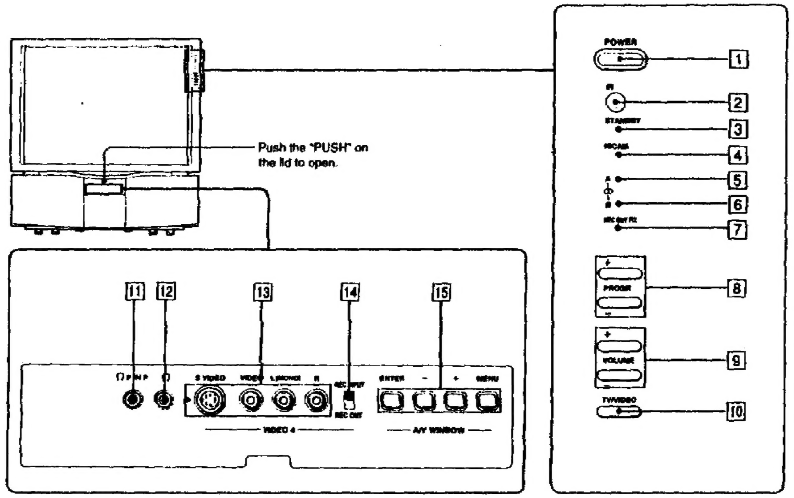
SECTION 1
GENERAL

The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remein as in the manual.

Overview

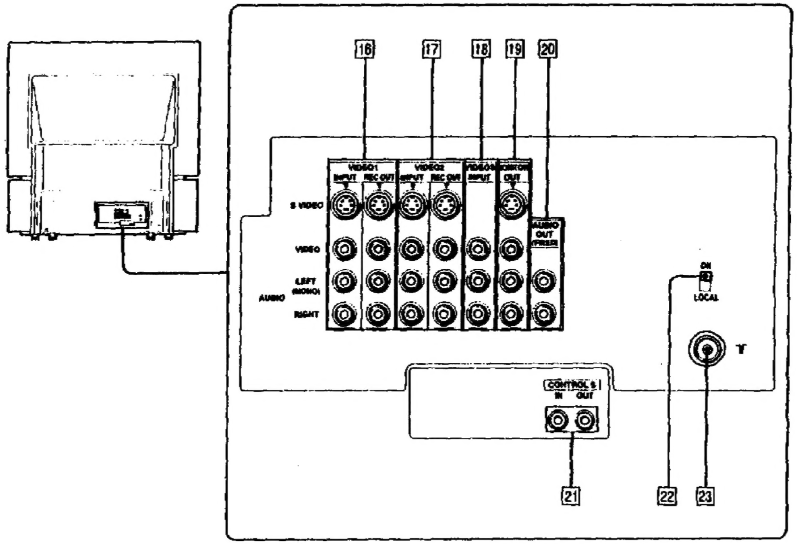
This section briefly describes the buttons and controls on the TV set and on the Remote Commander. For more information, refer to the pages given next to each description.

TV


Push the "PUSH" on the lid to open.
POWER
IR
STANDBY
NICAM
A
B
REC OUT FIX
PROGR
VOLUME
TV/VIDEO
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
Ω P IN P
Ω
S VIDEO
VIDEO
L (MONO)
R
REC INPUT
REC OUT
ENTER
–
+
MENU
VIDEO 4
A/V WINDOW

- 1 POWER switch ● ●
- 2 ■ Remote control detector
  Operate the Remote Commander pointed at here.
- 3 STANDBY lamp
- 4 NICAM lamp ●
- 5 A mode lamp ●
- 6 B mode lamp ●
- 7 REC OUT(recording output) FIX lamp ●
- 8 PROGR (program) +/– buttons ●
  Press to select a program.
- 9 VOLUME +/– buttons ●
  Press to adjust the volume.
- 10 TV/VIDEO button ●
- 11 Ω P IN P (Picture In Picture) headphones jack
  Connect headphones to listen to the sound of P IN P picture.
- 12 Ω Headphones jack
  Connect headphones to listen personally.
- 13 VIDEO 4 connectors ●
- 14 VIDEO 4 REC INPUT/REC OUT(recording input/output) button ●
  Press to switch the video 4 connectors to input or output.
- 15 Menu and A/V(audio/video) WINDOW function buttons ● ● ● ● ● ● ● ● ● ●

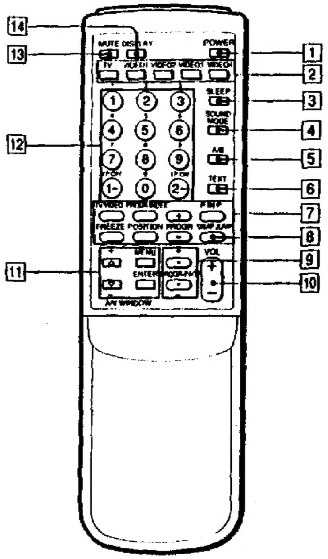
Rear

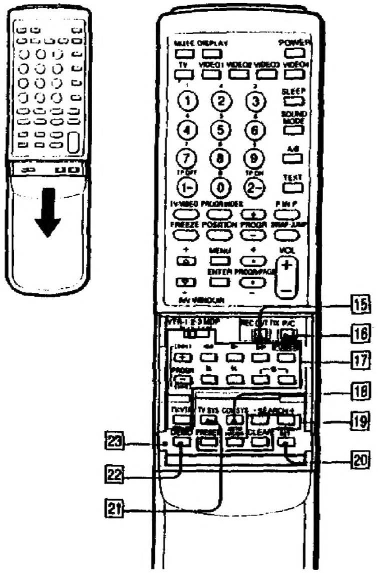

16
17
18
19
20
VIDEO1
INPUT
REC OUT
VIDEO2
INPUT
REC OUT
VIDEO3
INPUT
MONITOR
OUT
AUDIO OUT (FIXED)
S VIDEO
VIDEO
AUDIO
LEFT (MONO)
RIGHT
DX
LOCAL
CONTROL S
IN
OUT
21
22
23

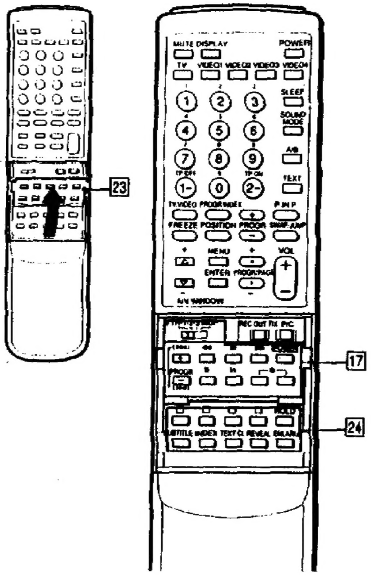
- 16 VIDEO 1 INPUT/REC OUT(recording output) jacks ●
- 17 VIDEO 2 INPUT/REC OUT(recording output) jacks ●
- 18 VIDEO 3 INPUT jacks ●
- 19 MONITOR OUT(output) jacks
  Connect another TV or monitor.
- 20 AUDIO OUT(output) (FIXED) jacks ●
- 21 CONTROL S INPUT/OUTPUT jacks
  To control the TV with the Remote Commander to be pointed at another Sony equipment, connect the Sony equipment to INPUT.
  To control another Sony equipment with the Remote Commander to be pointed at the TV, connect the Sony equipment to OUTPUT.
- 22 DX/LOCAL switch
  Normally set this switch to DX. If the sound is noisy, or lines or stripes appear on the screen because of too strong TV signal, set the switch to LOCAL.
- 23 Ƭ (antenna) terminal ●

Overview

Remote Commander







[1] POWER button ●

[2] TV, VIDEO 1, VIDEO 2, VIDEO 3, VIDEO 4 (FRONT) input select buttons ●

[3] SLEEP button ●
Press to set the sleep timer so that the TV automatically switches into standby mode.

[4] SOUND MODE button ●
Press to select the sound mode according to the program.

[5] A/B button ●
Press to select the sound mode of stereo or bilingual program.

[6] TEXT button ●
Press to switch to teletext mode.

[7] P IN P (Picture In Picture) screen control buttons ● ●

[8] JUMP button ●

[9] PROGR(program)/PAGE +/– buttons ● ● ●

[10] VOL(volume) +/– buttons ●

[11] Menu and A/V(audio/video) WINDOW function buttons ● ● ● ● ● ● ● ● ● ●

[12] Program number buttons ●

[13] MUTE button ●

[14] DISPLAY button ●
Press to display current mode and program position.

[15] REC OUT(recording output) FIX button ●
Press to fix the source to be recorded.

[16] P/C (program position/channel) button ●

[17] VTR/Multi disc player controls

When the panel [23] is in the lower position

[18] COL SYS(color system) button ●
Press to select a color system.

[19] Channel presetting buttons ● ●

[20] INITIAL SET button
Press to reset the adjustment and setting to factory-set mode.

[21] TV SYS(system) button ● ●
Press to select a TV system.

[22] DEMO(demonstration) button ●
Press to see all the menu pages in sequence.

[23] Panel
Make sure that the panel is fixed in the upper or lower position.

When the panel is in the upper position

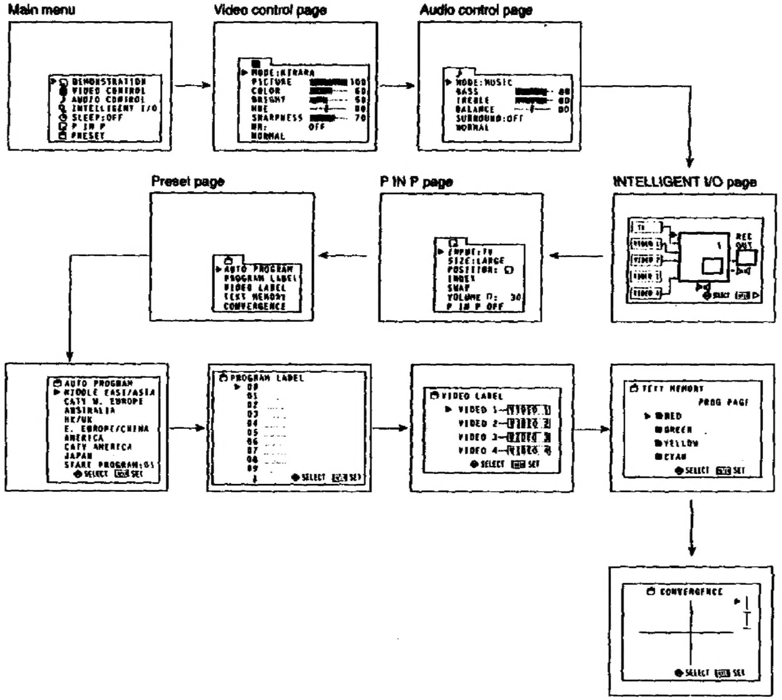
[24] Teletext operation buttons ● ●

Introduction of Menu

You will perform presetting, adjustment and other setting on the menu. Before beginning the presetting and operation, we suggest to have a look at the pages in the menu.

Press the DEMO button on the Remote Commander.
All the menu pages appear in sequence, and repeatedly.
To stop demonstration, press any button.

WELCOME TO
KIRARA
WORLD


Main menu
DEMONSTRATION
VIDEO CONTROL
AUDIO CONTROL
INTELLIGENT I/O
SLEEP:OFF
P IN P
PRESET
Video control page
MODE:KIRARA
PICTURE 100
COLOR 60
BRIGHT 50
HUE 00
SHARPNESS 70
NR: OFF
NORMAL
Audio control page
MODE:MUSIC
BASS 80
TREBLE 80
BALANCE 00
SURROUND:OFF
NORMAL
INTELLIGENT I/O page
TV
VIDEO 1
VIDEO 2
VIDEO 3
VIDEO 4
REC OUT
SELECT
P IN P page
INPUT:TV
SIZE:LARGE
POSITION:
INDEX
SWAP
VOLUME: 30
P IN P OFF
Preset page
AUTO PROGRAM
PROGRAM LABEL
VIDEO LABEL
TEXT MEMORY
CONVERGENCE
AUTO PROGRAM
MIDDLE EAST/ASIA
CATV W. EUROPE
AUSTRALIA
HK/UK
E. EUROPE/CHINA
AMERICA
CATV AMERICA
JAPAN
START PROGRAM:01
SELECT SET
PROGRAM LABEL
00
01
02
03
04
05
06
07
08
09
SELECT SET
VIDEO LABEL
VIDEO 1—VIDEO 1
VIDEO 2—VIDEO 2
VIDEO 3—VIDEO 3
VIDEO 4—VIDEO 4
SELECT SET
TEXT MEMORY
PROG PAGE
RED
GREEN
YELLOW
CYAN
SELECT SET
CONVERGENCE
SELECT SET

Presetting the Channels

Channel Allocation

Areas allocated in "MIDDLE EAST/ASIA" channel system
Afghanistan, Albania, Algeria, Austria, Bahrain, Bangladesh, Belgium, Brunei, Canary Islands, Cyprus, Denmark, Egypt, Finland, Germany, Ghana, Gibraltar, Greece, Iceland, India, Indonesia, Iran, Iraq, Italy, Jordan, Kenya, Republic of Korea, Kuwait, Lebanon, Liberia, Libya, Luxemburg, Malaysia, Malta, Mauritania, Mauritius, Maldives Rep., Morocco, Mozambique, Nepal, Netherlands, New Zealand, Nicaragua, Nigeria, Norway, Oman, Pakistan, Portugal, Qatar, Sarawak, Saudi Arabia, Seychelles, Sierra Leone, Singapore, Spain, Srilanka, Sudan, Swaziland, Sweden, Switzerland, Syrian Arab Rep., Tanzania, Thailand, Tunisia, Turkey, Uganda

Areas allocated in "CATV W. EUROPE" channel system
United Arab Emirates, Western Sahara, Yemen Arab Republic, People's Dem. Rep. of Yemen, Yugoslavia, Zambia, Zimbabwe

Areas allocated in "AUSTRALIA" channel system
Australia, New Zealand

Areas allocated in "HK/UK" channel system
Hong Kong, Ireland, Lesotho, South Africa, United Kingdom

Areas allocated in "E. EUROPE/CHINA" channel system
Benin, Bulgaria, China, Congo, Czechoslovakia, Djibouti Republic, Gabon, Guadeloupe, Guiana, Guinea (P.P.R.), Hungary, Ivory Coast, Dem. People's Rep. of Korea, Madagascar, Mongolia, New Caledonia, Niger, Poland, Reunion, Rumania, Senegal, Tahiti, Togo, Former U.S.S.R., Vietnam, Zaire

Areas allocated in "AMERICA" channel system
Bahama Islands, Barbados, Belize, Bermuda, Bolivia, Burma(UHF), Canada, Chile, Colombia, Costa Rica, Cuba, Dominica Republic, Ecuador, El Salvador, Guam, Guatemala, Haiti, Hawaii, Honduras, Jamaica, Laos, Mexico, Panama, Peru, Philippines, Puerto Rico, Surinam, Taiwan, Trinidad & Tobago, U.S.A., Venezuela

Areas allocated in "CATV AMERICA" channel system
U.S.A.(CATV)

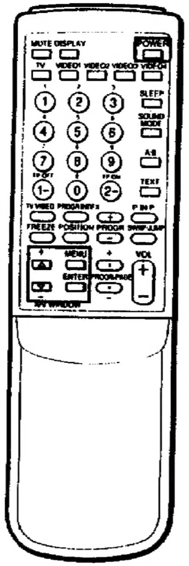
Areas allocated in "JAPAN" channel system
Japan (UHF, VHF), Burma (Myanmar) (VHF)

TV and Color System of the Channel System

The TV system and color system are automatically set according to the channel system.

Channel system	**TV system**	**Color system**
MIDDLE EAST/ASIA	B/G, H; West European TV standard	AUTO
CATV W.EUROPE	B/G, H; West European TV standard	AUTO
AUSTRALIA	B/G, H; Australian TV standard	AUTO
HK/UK	I; British TV standard	AUTO
E.EUROPE/CHINA	D/K; East European TV standard	AUTO
AMERICA	M; American TV standard	AUTO
CATV AMERICA	M; American TV standard	AUTO
JAPAN	M; Japan TV standard	AUTO

Presetting the Channels



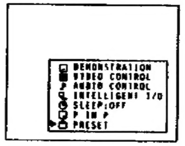
Preset Channels Automatically

Up to 30 receivable channels from the lowest channel are automatically preset in the consecutive program positions (1 to 29, 0).
With this method, you can preset all receivable channels at once.

1 Press the POWER switch of the TV to turn on the TV.

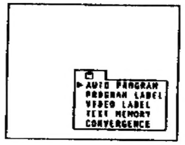
2 Press MENU on the Remote Commander.

3 Move the red cursor to "PRESET" using ∆ or ∇, then press ENTER.



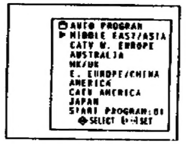
DEMONSTRATION
VIDEO CONTROL
AUDIO CONTROL
INTELLIGENT I/O
SLEEP:OFF
P IN P
▶ PRESET

4 Move the red cursor to "AUTO PROGRAM" using ∆ or ∇, then press ENTER.



▶ AUTO PROGRAM
PROGRAM LABEL
VIDEO LABEL
TEXT MEMORY
CONVERGENCE

5 Move the red cursor to your channel system using ∆ or ∇, according to the list on page 13, then press ENTER.
Presetting starts from program position 1. When presetting is finished, 1 (program number) appears.



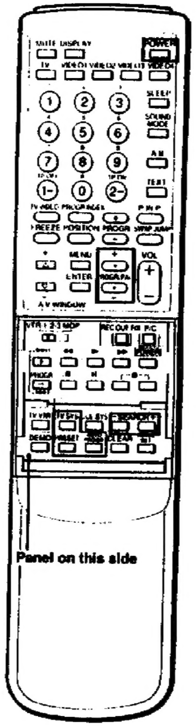
AUTO PROGRAM
▶ MIDDLE EAST/ASIA
CATV W. EUROPE
AUSTRALIA
HK/UK
E. EUROPE/CHINA
AMERICA
CATV AMERICA
JAPAN
START PROGRAM:01
SELECT ⊕ SET

Program and channel numbers

P01 C01 → P01 C02 → P02 C03 ---→ 1

If you want to start a program number other than 1
Before pressing ENTER in step 5, press PROGR +/– or the number button until the number you want appears at "START PROGRAM : _".

If you cannot use the Remote Commander
Use the MENU, ENTER, + and – buttons on the TV, and perform as above.



To preset the channels automatically without using the menu

1 Press the POWER switch of the TV to turn on the TV.

2 Press PRESET on the Remote Commander.

P01 C01

3 Select your channel system by pressing TV SYS, referring to "Channel Allocation" on page 13.

MIDDLE EAST/ASIA → CATV W. EUROPE → AUSTRALIA → HK/UK
↑
JAPAN ← CATV AMERICA ← AMERICA ← E.EUROPE/CHINA

4 Press AUTO PROGR.

P01 C01 → P01 C02 → P02 C03 ---→ 1

Preset Channels Manually

Use this method if there are only a few channels in your area to preset or if you want to preset channels one by one.

1 Press the POWER switch of the TV to turn on the TV.

2 Press PRESET on the Remote Commander.

P01 C01

3 Using the PROGR/PAGE + and – buttons, select the program position to which you want to preset a channel.

P03 C01

4 Select your channel system by pressing TV SYS.

MIDDLE EAST/ASIA → CATV W. EUROPE → AUSTRALIA → HK/UK
↑
JAPAN ← CATV AMERICA ← AMERICA ← E.EUROPE/CHINA

5 Tune in the channel, using the SEARCH +/– buttons.
The channel number starts counting up or downwards.
When a channel is found, it stops.

P03 C01

6 Repeat steps 3 to 5 to preset other channels.

7 Press PRESET.

3

Additional Presetting Functions

Skipping Program Positions

You can skip unused program positions when selecting programs with the PROGR/PAGE + and – buttons. However, the skipped programs may still be called up when you use the number buttons.

1 Press PRESET.

`P01 C01`

2 Select the program position using PROGR/PAGE + and – buttons.

`P03 C01`

3 Press CLEAR.

`P03 C--`

4 Press PRESET.

`1`

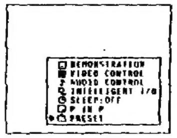
Repeat steps 1 to 4 to skip other program positions.

Captioning a Station Name

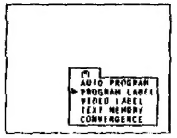
You can "name" a channel using up to four characters so that the name is displayed under the program number. Using this function, you can easily identify which channel you are watching.

1 Press MENU.

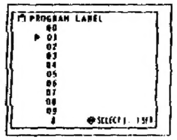
2 Move the red cursor to "PRESET" using Δ or ∇, then press ENTER.


DEMONSTRATION
VIDEO CONTROL
AUDIO CONTROL
INTELLIGENT I/O
SLEEP:OFF
P IN P
PRESET

3 Move the red cursor to "PROGRAM LABEL" using Δ or ∇, then press ENTER.


AUTO PROGRAM
PROGRAM LABEL
VIDEO LABEL
TEXT MEMORY
CONVERGENCE

4 Move the red cursor to the program number you want using Δ or ∇, then press ENTER. The first underline of the selected program number turns red.


PROGRAM LABEL
00
01
02
03
04
05
06
07
08
09
SELECT

5 Select a character using Δ or ∇, then press ENTER. The next underline turns red. Write character for each underline in the same way.
If you do not want to write a character, press ENTER.

`01 C_` → `01 CB_` → `01 CBS`

Usable characters: A to Z, 0 to 9, –, :, /, .(period), + and space

6 Repeat steps 4 and 5 to caption other program numbers.

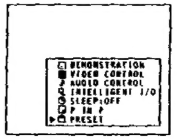
7 When you finished, press MENU.

Captioning a Video Input

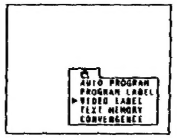
Using this function, you can identify the source (VHS, Beta, 8mm, Multi disc player, Tuner) of the video inputs, as the source is displayed under the video input.

1 Press MENU.

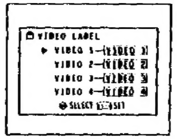
2 Move the red cursor to "PRESET" using Δ or ∇, then press ENTER.


DEMONSTRATION
VIDEO CONTROL
AUDIO CONTROL
INTELLIGENT I/O
SLEEP:OFF
P IN P
PRESET

3 Move the red cursor to "VIDEO LABEL" using Δ or ∇, then press ENTER.


AUTO PROGRAM
PROGRAM LABEL
VIDEO LABEL
TEXT MEMORY
CONVERGENCE

4 Move the red cursor to the video input (1, 2, 3, 4) you want using Δ or ∇.


VIDEO LABEL
VIDEO 1—VIDEO 1
VIDEO 2—VIDEO 2
VIDEO 3—VIDEO 3
VIDEO 4—VIDEO 4
SELECT

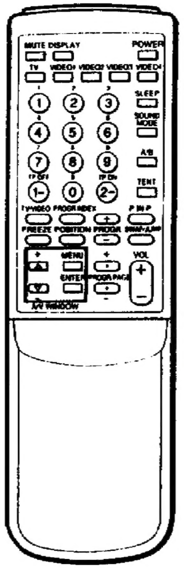
5 Press ENTER until the source name appears.

`VIDEO 1` → `VHS` → `BETA` → `8mm` → `LD` → `TUNER`

6 Repeat steps 4 and 5 for other video input.

7 When you finished, press MENU.

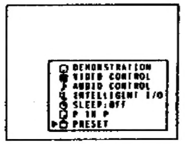
Adjusting Color Registration (CONVERGENCE)



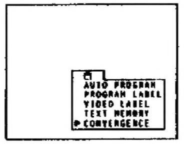
In a TV, the projection tube image appears on the screen in three color layers (red, green and blue). If these layers are not in proper registration, the color is poor and the picture blurs. To correct this, perform the CONVERGENCE adjustment.

1 Press MENU.

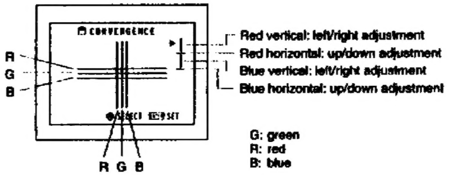
2 Move the red cursor to "PRESET" using Δ or ∇, then press ENTER.


DEMONSTRATION
VIDEO CONTROL
AUDIO CONTROL
INTELLIGENT I/O
SLEEP:OFF
P IN P
PRESET

3 Move the red cursor to "CONVERGENCE" using Δ or ∇, then press ENTER.

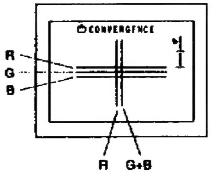

AUTO PROGRAM
PROGRAM LABEL
VIDEO LABEL
TEXT MEMORY
CONVERGENCE

4 Move the red cursor to the symbol representing the line you want using Δ or ∇, then press ENTER.

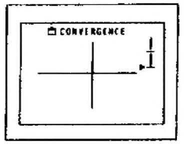

CONVERGENCE
R
G
B
SELECT SET
R G B
Red vertical: left/right adjustment
Red horizontal: up/down adjustment
Blue vertical: left/right adjustment
Blue horizontal: up/down adjustment

G: green
R: red
B: blue

5 Press Δ or ∇ until the line converges with the center green line, then press ENTER.
To move the line up or to the right, use Δ.
To move the line down or to the left, use ∇.

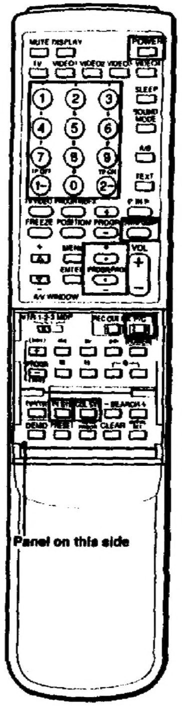

CONVERGENCE
R
G
B
R G+B

6 Repeat steps 4 and 5 to adjust the other lines, until all the lines have overlapped to form a white cross.


CONVERGENCE

7 When you finished, press MENU.

Watching the TV



This section explains the basic functions you use while watching the TV.

Switching the TV on and off

Switching on
Press the POWER switch of the TV.

Switching off temporarily
Press POWER on the Remote Commander.
The TV enters standby mode and the standby indicator on the front of the TV lights up.

Switching on again
Press POWER, TV, PROGR/PAGE +/–, or one of the number buttons on the Remote Commander.
If you cannot use the Remote Commander, press PROGR +/– on the TV.

Switching off completely
Press the POWER switch of the TV.

Selecting TV Programs

Press PROGR/PAGE +/– or press number buttons.
To select program 5, press "5".
To select program 10, press "1–" "0".
To select program 25, press "2–" "5".

To return to the previous program number
Press JUMP. (This button functions as SWAP when the P IN P (see page 25) is displayed.)

If the sound is noisy or not heard
Press TV SYS until the sound becomes clear.

If the color program does not appear in color
Press COL SYS until the color becomes normal.

Selecting TV Program by Channel Number (not by program number)

See page 33 for the channel numbers.

1 Press P/C so that C-- appears.
2 While C-- is on, select the channel system by pressing TV SYS.
  The TV becomes channel tuning mode.
3 While C-- is on, press the channel number.
  To select channel 5, press "0", "5".
  To select channel 25, press "2", "5".

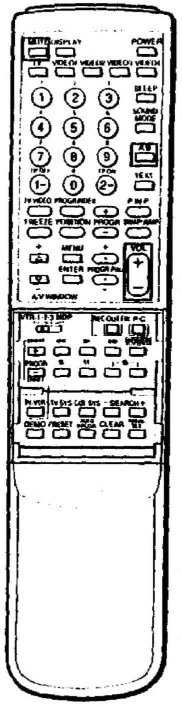
To skip channels

1 Press P/C so that C-- appears.
2 Select the channel number to be skipped using the number buttons or PROGR/PAGE +/– buttons.
3 Press CLEAR.

Repeat steps 1 to 3 to skip other channels.
To restore the skipped channel, tune in the channel and press PRESET.

To select TV programs by program number

1 Press P/C so that P-- appears.
2 While P-- is on, press the program number.

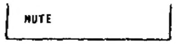


Adjusting the Volume

Press VOL +/–.

Muting the Sound

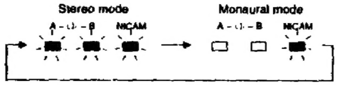
Press MUTE.



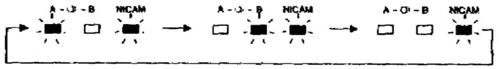
To resume normal sound, press MUTE again.

Receiving a Stereo or Bilingual Program

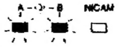
When the TV receives a NICAM stereo system program
The NICAM lamp, A and B mode lamps light. Press A/B to select stereo or monaural mode.
If the signal is very weak, the sound becomes monaural. The NICAM, A and B mode lamps go off.



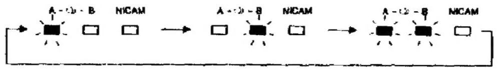
When the TV receives a NICAM bilingual system program
The NICAM lamp, A and/or B mode lamp(s) light. Press A/B so that the lamp (A or B) of the mode you want lights up.



When the TV receives a German stereo system program
The A and B mode lamps light.
If the signal is very weak, the sound becomes monaural. The lamps go off.

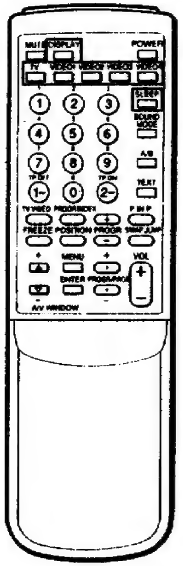


When the TV receives a German bilingual system program
A and/or B mode lamp(s) light(s). Press A/B so that the lamp (A, B, or A and B) of the mode you want lights up.



Who can receive the NICAM stereo/bilingual system
The NICAM stereo/bilingual system is receivable in Hong Kong, Singapore, New Zealand, etc.

Who can receive the German stereo/bilingual system
The German stereo/bilingual system is receivable in Australia, Malaysia, Thailand, etc.


MUTE
DISPLAY
POWER
TV
VIDEO1
VIDEO2
VIDEO3
VIDEO4
SLEEP
SOUND MODE
A/B
TEXT
P IN P
FREEZE
POSITION
PROGR
SWAP JUMP
MENU
VOL
ENTER
A/V WINDOW

Watching Video Input

Using the VIDEO 1, VIDEO 2, VIDEO 3, and VIDEO 4 buttons, select the video input.
To go back to the normal TV picture, press TV.

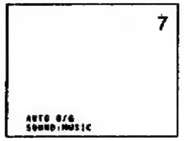
When you select VIDEO 4
If "SELECT INPUT MODE" appears on the screen, press the VIDEO 4 REC INPUT/REC OUT button on the front panel of the TV to select REC INPUT (⏏).

On the TV
Press TV/VIDEO.

Displaying the On-screen Indications

Press DISPLAY.
The program number, color and TV system setting and sound mode appear. They, except the program number, will disappear after some seconds.
Press again to make indications disappear.

In channel tuning mode (C--), channel number, channel system and sound mode appear.


7
AUTO B/G
SOUND:MUSIC

Using the Sleep Timer

You can select the time period after which the TV automatically switches into standby mode.
Select the time period by pressing SLEEP.
The time period (in approximate minutes) changes as follows:

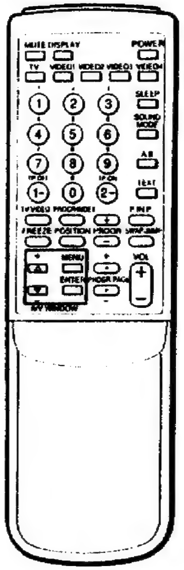
SLEEP OFF → SLEEP 30 → SLEEP 60 → SLEEP 90

About one minute before the TV switches into standby mode, "SLEEP" is displayed on the screen.

To switch off the sleep timer
Press SLEEP until "SLEEP OFF" appears.

To check the remaining time
Press SLEEP.
If you do not want to change the remaining time, leave it until it disappears automatically.

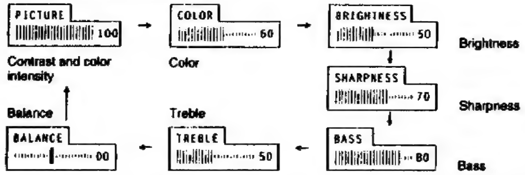
Setting the sleep timer using the menu or on the TV set
Use the MENU, ENTER, Δ and ∇ buttons on the Remote Commander or on the TV.
1 Press MENU.
2 Move the cursor to "SLEEP" using Δ or ∇.
3 Press ENTER until the time period you want appears at "SLEEP: __".


MUTE
DISPLAY
POWER
TV
VIDEO1
VIDEO2
VIDEO3
VIDEO4
SLEEP
SOUND MODE
A/B
TEXT
P IN P
FREEZE
POSITION
PROGR
SWAP JUMP
MENU
VOL
ENTER
A/V WINDOW

Adjusting the Picture and Sound

Although the picture and sound are adjusted at the factory, you can adjust them to suit your own taste.

1 Select the item by pressing ENTER.


PICTURE 100
Contrast and color intensity
COLOR 60
Color
BRIGHTNESS 50
Brightness
SHARPNESS 70
Sharpness
BASS 80
Bass
TREBLE 50
Treble
BALANCE 00
Balance

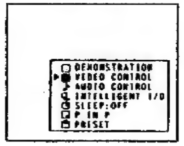
2 Using Δ or ∇ button, adjust the item to your taste.

Adjusting the picture and sound using the menu or on the TV set
Use the MENU, ENTER, Δ and ∇ buttons on the Remote Commander or on the TV.

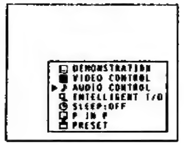
1 Press MENU.

2 To adjust the picture, move the red cursor to "VIDEO CONTROL" using Δ or ∇, then press ENTER.
To adjust the sound, move the red cursor to "AUDIO CONTROL" using Δ or ∇, then press ENTER.

Video control

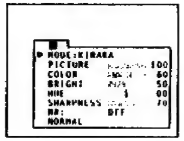

DEMONSTRATION
▶ VIDEO CONTROL
AUDIO CONTROL
INTELLIGENT I/O
SLEEP:OFF
P IN P
PRESET

Audio control

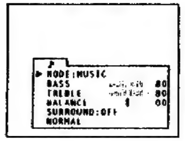

DEMONSTRATION
VIDEO CONTROL
▶ AUDIO CONTROL
INTELLIGENT I/O
SLEEP:OFF
P IN P
PRESET

3 Move the red cursor to the item you want to adjust using Δ or ∇, then press ENTER.

Video control

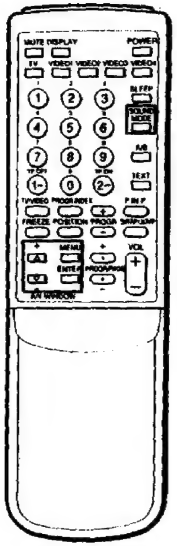

▶ MODE:KIRARA
PICTURE 100
COLOR 60
BRIGHT 50
HUE 00
SHARPNESS 70
NR: OFF
NORMAL

Audio control


▶ MODE:MUSIC
BASS 80
TREBLE 80
BALANCE 00
SURROUND:OFF
NORMAL

4 Adjust the item. (See the table on page 24.)

5 Press MENU to turn off the menu.



Effect of each control

Picture

Item	Press	Effect
MODE	ENTER	→ KIRARA → MIDDLE → SOFT ┐
PICTURE	Δ/∇ → ENTER	Less ||||||||········ More
COLOR	Δ/∇ → ENTER	Less ||||||||········ More
BRIGHT	Δ/∇ → ENTER	Darker ||||········ Brighter
HUE	Δ/∇ → ENTER	Greenish ········|········ Reddish (for NTSC signal only)
NR[1]:	ENTER	→ OFF → ON ┐
NORMAL	ENTER	"NORMAL" becomes red in a moment and the settings are reset to the factory preset levels.

1) Noise reduction. Set to ON when the picture is noisy because of a weak signal or tape deterioration.

Sound

Item	Press	Effect
MODE	ENTER	→ MUSIC → STANDARD → NEWS ┐
BASS	Δ/∇ → ENTER	Less ||||||||········ More
TREBLE	Δ/∇ → ENTER	Less ||||||||········ More
BALANCE	Δ/∇ → ENTER	Left speaker ········|········ Right speaker
SURROUND	ENTER	→ OFF → MUSIC[2] → MOVIE[3] → SPACE[4] ┐
NORMAL	ENTER	"NORMAL" becomes red in a moment and the settings are reset to the factory preset levels.

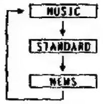
2) MUSIC mode is effective for music programs.
3) MOVIE mode is effective for movie programs.
4) SPACE mode gives spacious monaural sound.

Note

When the menu is displayed, you cannot change the program using the number buttons. Use PROGR/PAGE +/–.

Selecting the Sound Mode

You can select a proper sound mode in accordance with the program.
Select the sound mode by pressing SOUND MODE.



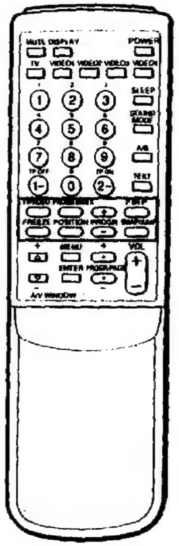
Music program: The high and low tones are emphasized.

Standard sound

News program: The person's voice becomes easy to hear.

Picture In Picture (P IN P)

Buttons for P IN P operation



With this function you can display a "P IN P screen" (small picture) within the main picture of TV program or video input. In this way you can watch or monitor TV program or the video input from any connected equipment while watching TV or other video input. For information about connection of other equipment, see page 29.

Switching P IN P on and off

Press P IN P.
The P IN P screen is displayed. The P IN P picture comes from the source chosen when the TV was last used.

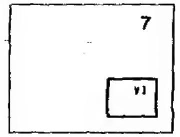
To switch P IN P off
Press P IN P again.

Selecting a P IN P source

To select a TV program, use PROGR + and – buttons of the P IN P section.
To select a video input, press TV/VIDEO.

Each time you press TV/VIDEO, the indication at the top right corner of the P IN P screen changes:

→ TV program number → V1 → V2 → V3 → V4 ┐

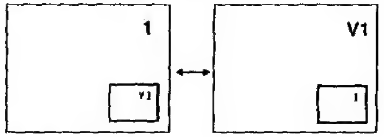


Notes

- If no video source has been connected, the P IN P screen is black.
- You may not be able to receive some channels in P IN P, even though they are being received for the main picture.
- If you display the signals for different color systems (PAL, SECAM, NTSC) for the main picture and in the P IN P, size of the P IN P may be different.
- If a TV channel in which no program is broadcast is received for the P IN P screen, the program number of P IN P may become black.

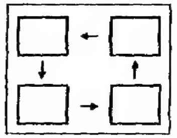
Swapping screens

Press SWAP.
The main screen switches the picture with the P IN P screen.

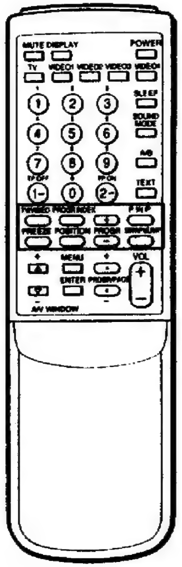


Changing the position of the P IN P

Press POSITION repeatedly to change the position of the P IN P screen. There are four different positions available.



Picture In Picture (P IN P)


MUTE DISPLAY
POWER
TV
VIDEO1
VIDEO2
VIDEO3
VIDEO4
SLEEP
SOUND MODE
A/B
TEXT
1
2
3
4
5
6
7
8
9
1-
0
2-
PP OFF
PP ON
PROGR INDEX
P IN P
FREEZE
POSITION
PROGR
SWAP
MENU
VOL
ENTER
A/V WINDOW

Freezing the P IN P picture

Press FREEZE.
To restore the normal picture, press FREEZE again.

Note

If you press FREEZE when there is no P IN P screen, the main picture is frozen and appears in the P IN P screen.

Checking the programs available

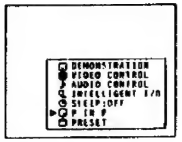
Press PROGR INDEX. The preset programs appear in the P IN P screen one by one in sequence.
To stop checking programs, press PROGR INDEX.

Operating P IN P using the menu or on the TV

Use the MENU, ENTER, △ and ▽ buttons on the Remote Commander or on the TV.

Using the menu, you can change the P IN P size and adjust the P IN P headphones volume to hear through the headphones besides the above operations (except freezing).

1 Press MENU.
2 Move the red cursor to "P IN P" using △ or ▽, then press ENTER.


DEMONSTRATION
VIDEO CONTROL
AUDIO CONTROL
INTELLIGENT I/O
SLEEP:OFF
P IN P
PRESET

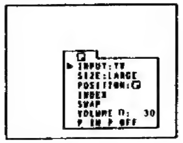
3 Move the red cursor to the item you want to set using △ or ▽, then press ENTER.

INPUT: → TV → VIDEO 1 → VIDEO 2 → VIDEO 3 → VIDEO 4

SIZE: → SMALL → LARGE

POSITION: → ◲ → ◳ → ◰ → ◱

INDEX: Performed on the P IN P screen.
SWAP: Performed on the TV.
VOLUME: Adjust using △ or ▽, then press ENTER.
P IN P OFF: The P IN P screen disappears.

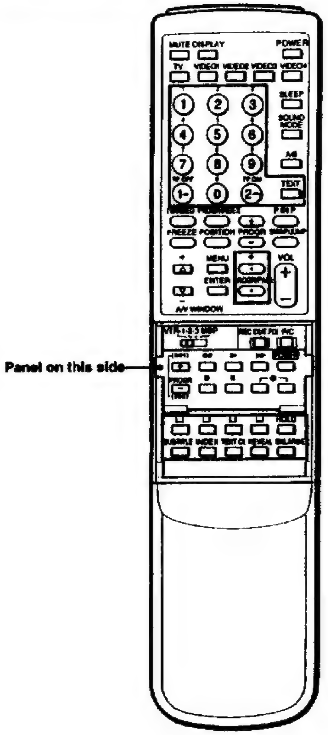

INPUT:TV
SIZE:LARGE
POSITION:
INDEX
SWAP
VOLUME: 30
P IN P OFF

Notes

- When you display a VTR picture at speeds other than normal speed, such as fast-forward playback, on the P IN P screen, the picture may be noisy depending on the VTR. The picture may be improved by selecting the "SMALL" size of the P IN P screen.
- You cannot hear the sound of the NICAM and German stereo/bilingual system program in the P IN P picture.
- While fast-forwarding or reversing the picture of a PAL system signal on an 8 mm VTR, the picture may be distorted.

Teletext

Buttons for teletext operation


Panel on this side
MUTE DISPLAY
POWER
TV
VIDEO1
VIDEO2
VIDEO3
VIDEO4
SLEEP
SOUND MODE
A/B
TEXT
1
2
3
4
5
6
7
8
9
1-
0
2-
PROGR INDEX
P IN P
FREEZE
POSITION
PROGR
SWAP/JUMP
MENU
VOL
ENTER
A/V WINDOW
HOLD
SUBTITLE
INDEX
TEXT CL
REVEAL
ENLARGE

TV stations broadcast an information service called Teletext via a TV channels. Teletext service allows you to receive various information pages such as weather reports or news at any time you want.

Switching Teletext on and off

1 Select the TV channels which carries the teletext broadcast you want to watch.
2 Press TEXT to switch on the teletext.
A teletext page will be displayed (usually the index page). If there is no teletext broadcast, P100 is displayed at the top left corner of the screen.

To switch Teletext off
Press TV.

Superimposing a Teletext page on the TV picture (MIX mode)

Press TEXT.
Each time you press TEXT, the screen changes:

→ Teletext → Teletext and TV → TV

Checking the contents of the Teletext

Press INDEX to have the overview of the contents of the teletext and page numbers.

Selecting a Teletext page

Use the number buttons to input the three digits of the page number you want to turn on.

If you have made a mistake, type in any three digits. Then re-enter the correct page number.

To access the next or preceding page, press PAGE + or PAGE –.

Holding a Teletext page

A teletext page may consist of several subpages. You can stop the page scrolling in order to read the text at your own pace.

Press HOLD.
The HOLD symbol " ⊞ " is displayed at the top left of the screen.
To resume normal teletext operation, press TEXT.

Enlarging the Teletext display

Press ENLARGE once to enlarge the upper half, twice to enlarge the lower half, and again to resume normal size.

Revealing concealed information

Sometimes pages contain concealed information, such as an answer to a quiz. The reveal option lets you disclose the information.

Press REVEAL.
To conceal the information, press REVEAL again.

Displaying subtitles

Press SUBTITLE.
To make the subtitle disappear, press SUBTITLE again.

Teletext

Waiting for Teletext page while watching the TV program

After requesting a page, press TEXT CLEAR.
When the page is available, the page number is displayed at the top left corner of the screen.
Press TEXT to switch the teletext on.

Displaying Teletext page at predetermined time

1 Request a time coded page (e.g. alarm page).
2 Press TP ON.
"T****" appears at the bottom of the screen.
3 Enter your request time of four digits using the number buttons. For example, if you enter 0730, the indication will become "T0730".
4 To watch the TV program, press TEXT CLEAR.
5 At the requested time, the page number is displayed at the top left corner of the screen.
To view the page, press TEXT.
To cancel the page, press TP OFF.

Using Fastext

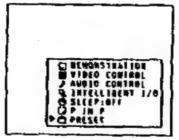
With Fastext you can access pages with one key stroke.
When a Fastext page is broadcast, a color-coded menu will appear at the bottom of the screen. The colors of this menu correspond to the RED, GREEN, YELLOW and CYAN buttons on the Remote Commander.
Press the color button which corresponds to the color-coded menu. The page will be displayed after some seconds.

Switching to a Teletext page you want directly while watching a TV

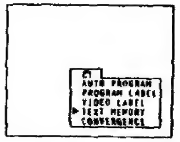
Using the menu, you can set teletext pages you want so that you can switch to the pages directly while watching a TV by pressing a color button.

To set the page

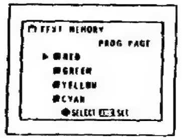
1 Press MENU.
2 Move the red cursor to "PRESET" using ∆ or ∇, then press ENTER.



3 Move the red cursor to "TEXT MEMORY" using ∆ or ∇, then press ENTER.



4 Move the red cursor to a color you want using ∆ or ∇, then press ENTER.
The colors correspond to the color of the buttons.



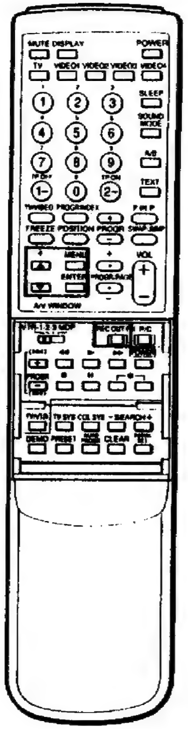
5 Press the program number button and press ENTER.
For the program number 5, press "5".
For the program number 25, press "2–" and "5".
6 Press the page number button of three digits and press ENTER.
If you made a mistake, enter any three digits and then enter the correct three digits.
If you want to cancel the operation, press "9" for the first digit.
7 Repeat steps 4 to 6 for other pages.
8 Press MENU to return to the TV display.

To view the page, press the color button of the page while watching the TV.

Note

The color buttons function as the FAST TEXT buttons in Teletext mode.

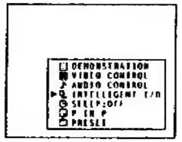
Selecting Input and Output


MUTE DISPLAY
POWER
TV VIDEO1 VIDEO2 VIDEO3 VIDEO4
SLEEP
SOUND MODE
A/B
TEXT
TV/VIDEO PROGR INDEX
P IN P
FREEZE POSITION PROGR SWAP JUMP
MENU
VOL
ENTER PROGR PAGE
A/V WINDOW
VTR 1 2 3 MDP
REC OUT FIX
P/C
TV/VTR TV SYS COL SYS SEARCH
DEMO PRESET CLEAR

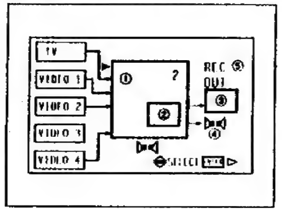
Using the INTELLIGENT I/O function, you can:
—record a source while watching the source.
—record a source while watching another source.
—record picture and sound from different sources.
—record a source while the TV is in standby mode.

Setting the INTELLIGENT I/O

1 Press MENU.
2 Move the red cursor to "INTELLIGENT I/O" using Δ or ∇, then press ENTER.


DEMONSTRATION
VIDEO CONTROL
AUDIO CONTROL
INTELLIGENT I/O
SLEEP:OFF
P IN P
PRESET

3 Select the item using Δ or ∇, then press ENTER.
The color of the box or speaker mark becomes the color of the source selected.
① Select the source to watch on the TV.
② Select the source to be displayed on the P IN P screen.
③ Select the video to be recorded.
④ Select the sound to be recorded.
⑤ Make REC OUT in red or in white.
Red: The REC OUT FIX is on. The REC OUT FIX lamp lights. The recording source is fixed, therefore, even if you change the source to watch, the recording source does not change.
White: The REC OUT FIX is off. The REC OUT FIX lamp is off. The recording source changes accordingly when you change the source to watch.


TV
VIDEO 1
VIDEO 2
VIDEO 3
VIDEO 4
①
?
②
REC ⑤
OUT
③
④
SELECT

4 Press MENU to go back to the normal TV picture.

To change the program or video input after recording has started, or to turn off the TV (standby)

- If you did not make "REC OUT" in red on the INTELLIGENT I/O page (the REC OUT FIX lamp is not lit), press REC OUT FIX on the Remote Commander.
- If you made "REC OUT" in red (the REC OUT FIX lamp is lit), you do not need any operation.

When you set the INTELLIGENT I/O the next time

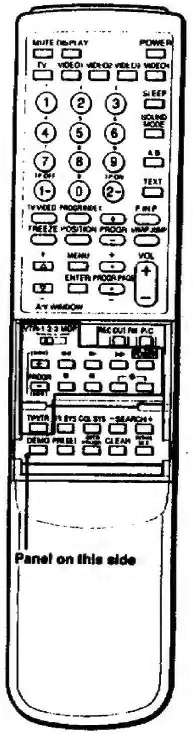
Make the "REC OUT" in white, if it is in red.

Notes

- After you started recording, do not turn off the TV by pressing the POWER switch of the TV. The recording stops.
- If you call the INTELLIGENT I/O page while watching the TV, the P IN P is displayed. To turn P IN P off, press P IN P.
- If you change TV program while recording a TV program, the newly selected TV program is recorded, even if you set the REC OUT FIX to on.

Remote Control of Other Sony Equipment

Buttons for VTR operation


MUTE DISPLAY
POWER
TV VIDEO1 VIDEO2 VIDEO3 VIDEO4
SLEEP
SOUND MODE
A/B
TEXT
TV/VIDEO PROGR INDEX
P IN P
FREEZE POSITION PROGR SWAP JUMP
MENU
VOL
ENTER PROGR PAGE
A/V WINDOW
VTR 1 2 3 MDP
REC OUT FIX
P/C
TV/VTR TV SYS COL SYS SEARCH
DEMO PRESET CLEAR

Panel on this side

You can use the TV Remote Commander to control other remote-controlled video equipment such as Beta, 8mm, VHS VTRs or multi disc players.

Tuning the Remote Commander to the equipment

1 Set the VTR 1-2-3-MDP selector according to the equipment you want to control.
VTR 1: Beta or ED Beta VTR
VTR 2: 8mm VTR
VTR 3: VHS VTR
MDP: Multi disc player

2 Use the buttons indicated in the illustration to operate the additional equipment.

If your video equipment is furnished with a COMMAND MODE selector, set this selector to the same position as the VTR 1-2-3-MDP selector on the TV Remote Commander.

If the equipment does not have a certain function, the corresponding button on the Remote Commander will not operate.

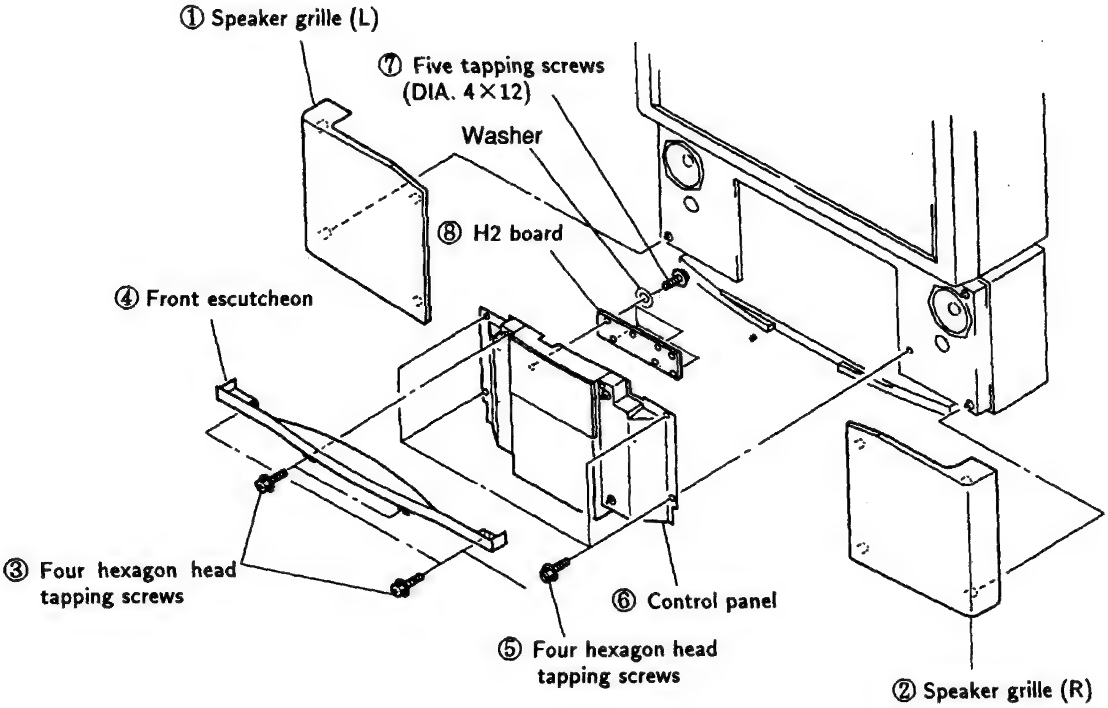
When recording

When you use the ● (record) button, make sure to press these two buttons simultaneously.

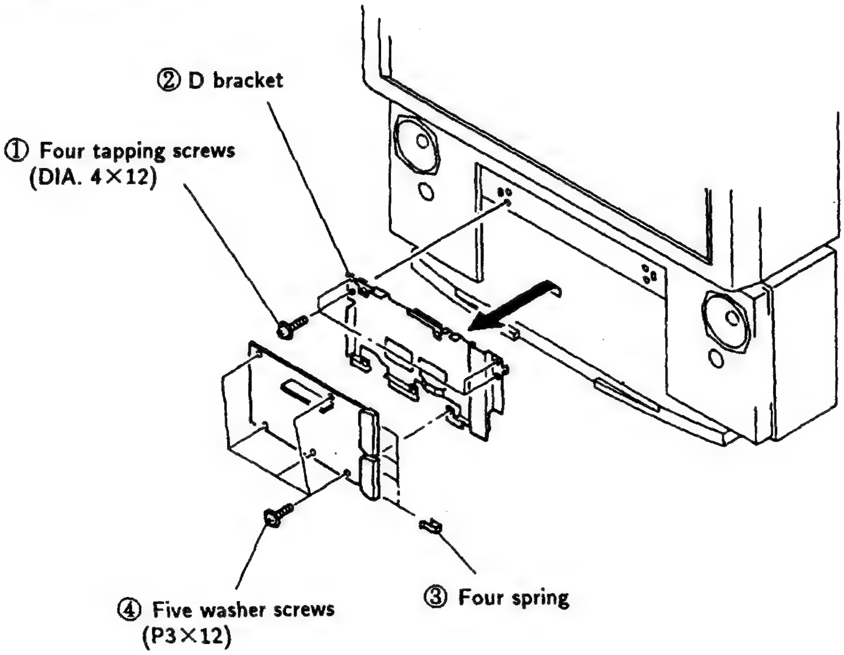
SECTION 2

DISASSEMBLY

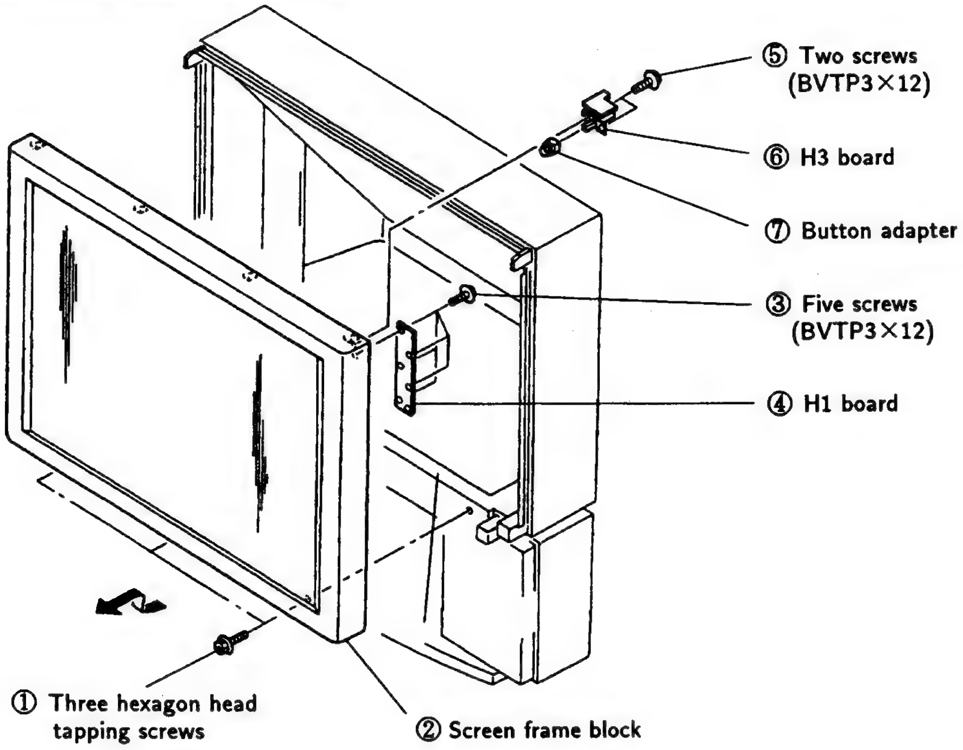
2-1. H2 BOARD REMOVAL


① Speaker grille (L)
⑦ Five tapping screws (DIA. 4×12)
Washer
⑧ H2 board
④ Front escutcheon
③ Four hexagon head tapping screws
⑥ Control panel
⑤ Four hexagon head tapping screws
② Speaker grille (R)

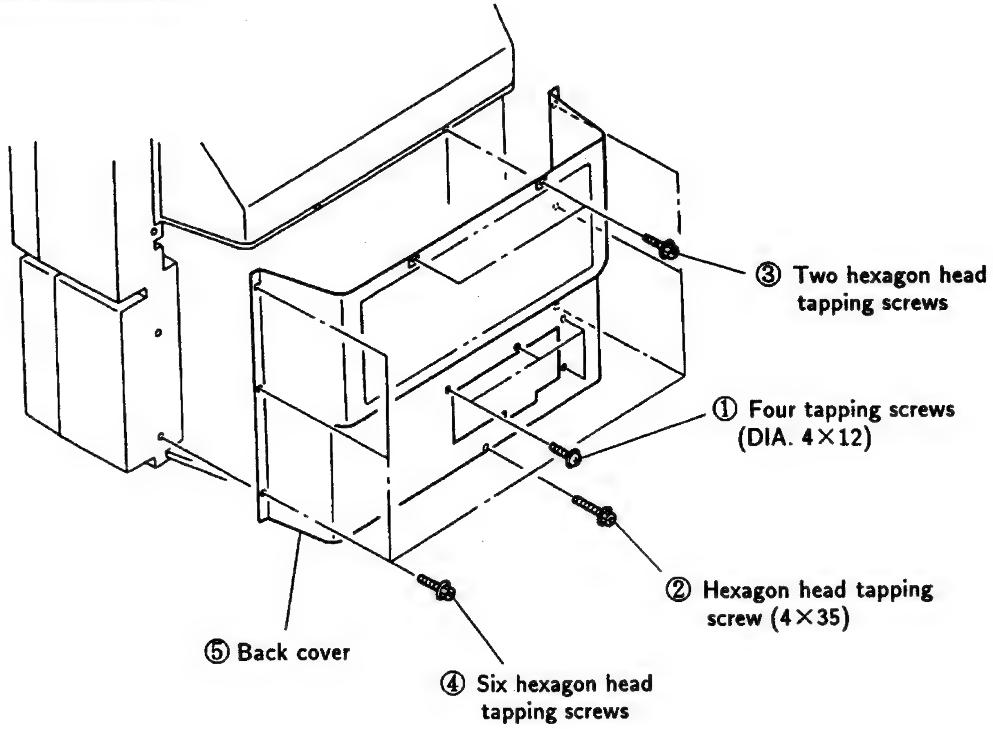
2-2. D BOARD REMOVAL


② D bracket
① Four tapping screws (DIA. 4×12)
④ Five washer screws (P3×12)
③ Four spring

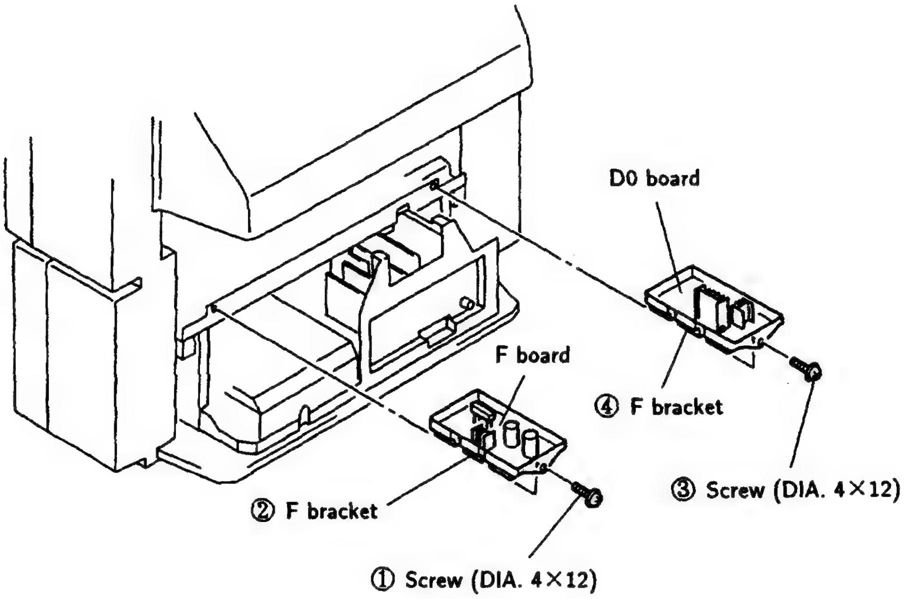
2-3. H1 AND H3 BOARDS REMOVAL


⑤ Two screws (BVTP3×12)
⑥ H3 board
⑦ Button adapter
③ Five screws (BVTP3×12)
④ H1 board
① Three hexagon head tapping screws
② Screen frame block

2-4. BACK COVER REMOVAL

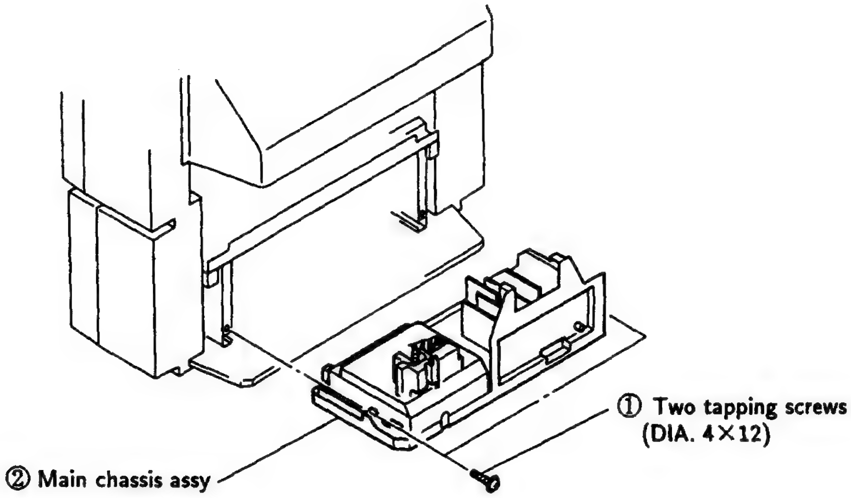

③ Two hexagon head tapping screws
① Four tapping screws (DIA. 4×12)
② Hexagon head tapping screw (4×35)
⑤ Back cover
④ Six hexagon head tapping screws

2-5. F BRACKET REMOVAL

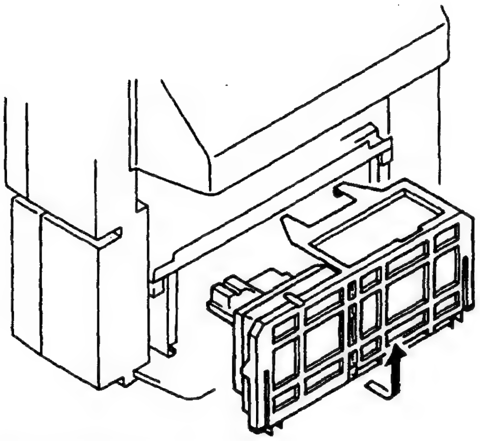

D0 board
F board
④ F bracket
③ Screw (DIA. 4×12)
② F bracket
① Screw (DIA. 4×12)

2-6. MAIN CHASSIS ASSY REMOVAL AND SERVICE POSITION

(1) MAIN CHASSIS ASSY REMOVAL



(2) SERVICE POSITION



NOTES INSERTED IN SERVICE POSITION SECTION

Service Position Procedure

1) Remove the path locks where the harness comes into. (MAIN bracket, G shield)
2) Remove the following connectors before removing the main bracket.
   ※ HV grounding lead, G shield grounding lead, V-2 connector (V board).
3) Remove the main bracket. (Take care as the connector leads linking to the C and Z boards are considerably short).
4) Before power ON, be sure to connect the connectors removed.
   ※ HV grounding lead, G shield grounding lead.

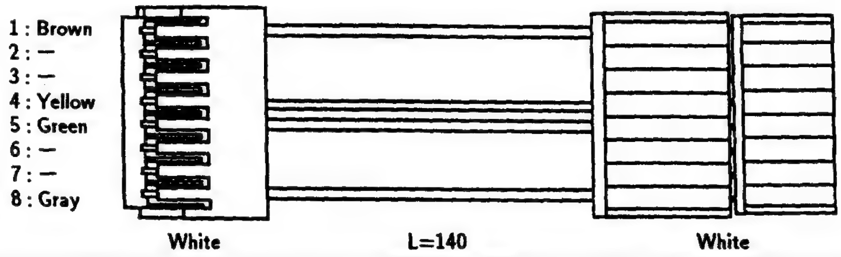
In case that grounding lead (Black) of HV Block is not connected with chassis grounding, it causes arcing of CRT and it is dangerous.

Be sure to connect grounding lead of HV Block with chassis grounding.

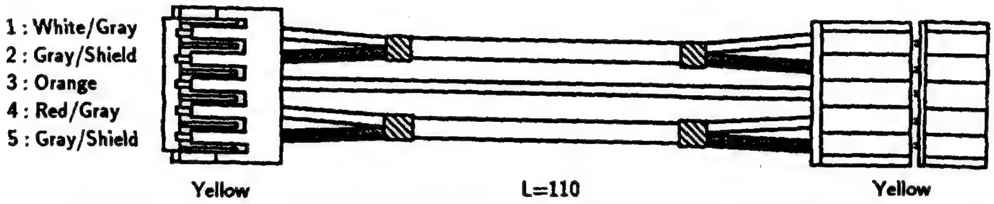
(3) CONNECTOR CABLES

※ **In order to put the set in the service position, use the extension connector cables below.**

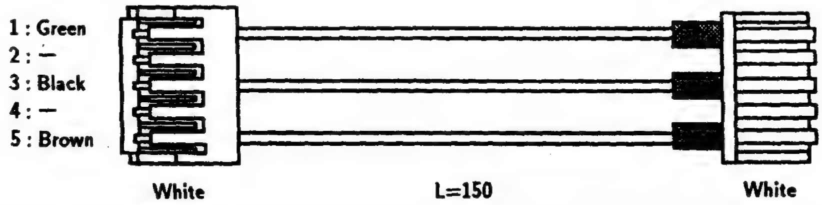
Parts No.	Connection
1-941-897-38	CB-4toCN1652(G BOARD)


1 : Brown
2 : —
3 : —
4 : Yellow
5 : Green
6 : —
7 : —
8 : Gray
White
L=140
White

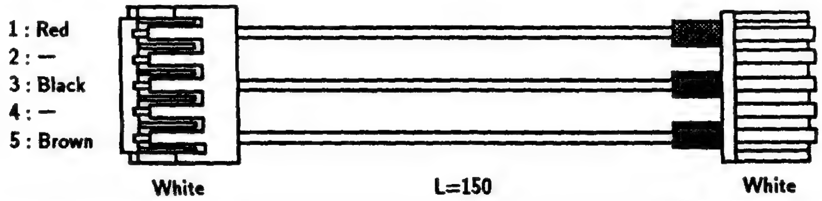
Parts No.	Connection
1-941-897-39	CG-16toCN1608(A BOARD)


1 : White/Gray
2 : Gray/Shield
3 : Orange
4 : Red/Gray
5 : Gray/Shield
Yellow
L=110
Yellow

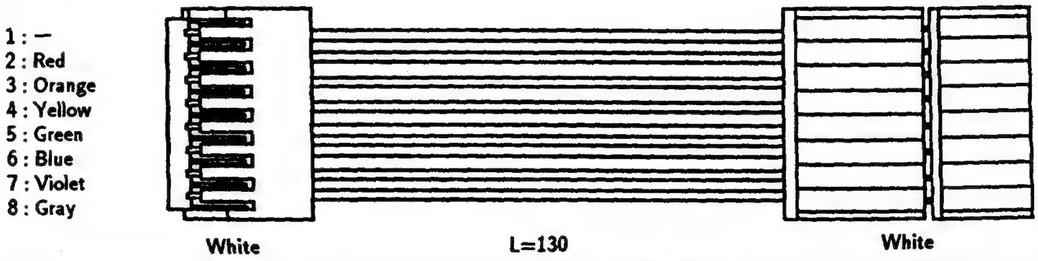
Parts No.	Connection
1-941-897-40	ZG-19toCN1308(DO BOARD)


1 : Green
2 : —
3 : Black
4 : —
5 : Brown
White
L=150
White

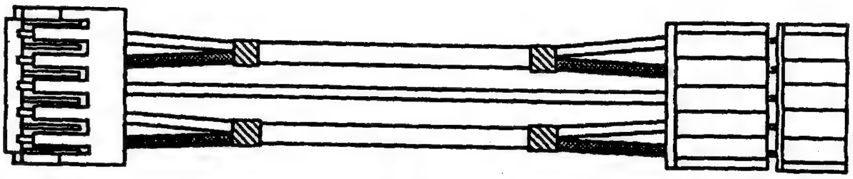
Parts No.	Connection
1-941-897-41	ZR-18toCN1306(DO BOARD)


1 : Red
2 : —
3 : Black
4 : —
5 : Brown
White
L=150
White

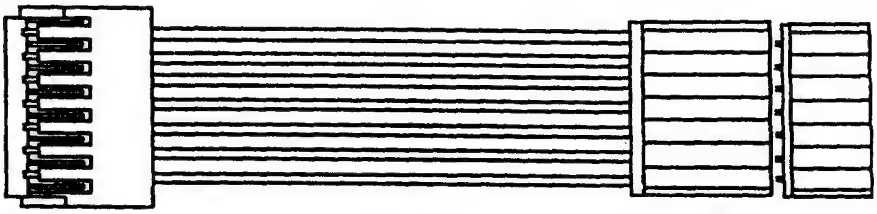
Parts No.	Connection
1-941-897-42	ZG-2toD-2


1 : —
2 : Red
3 : Orange
4 : Yellow
5 : Green
6 : Blue
7 : Violet
8 : Gray
White
L=130
White

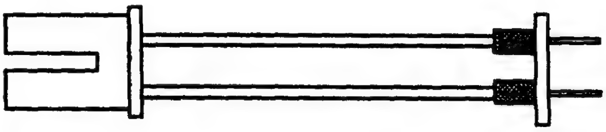
Parts No.	Connection
1-941-897-43	CR-15toCN1609(A BOARD)


1 : White/Gray
2 : Gray/Shield
3 : Orange
4 : Red/Gray
5 : Gray/Shield
Red
L=180
Red

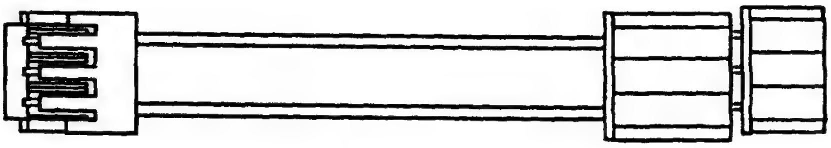
Parts No.	Connection
1-941-897-44	ZR-1toD-1


1 : Brown
2 : Red
3 : Orange
4 : Yellow
5 : Green
6 : Blue
7 : Violet
White
L=150
White

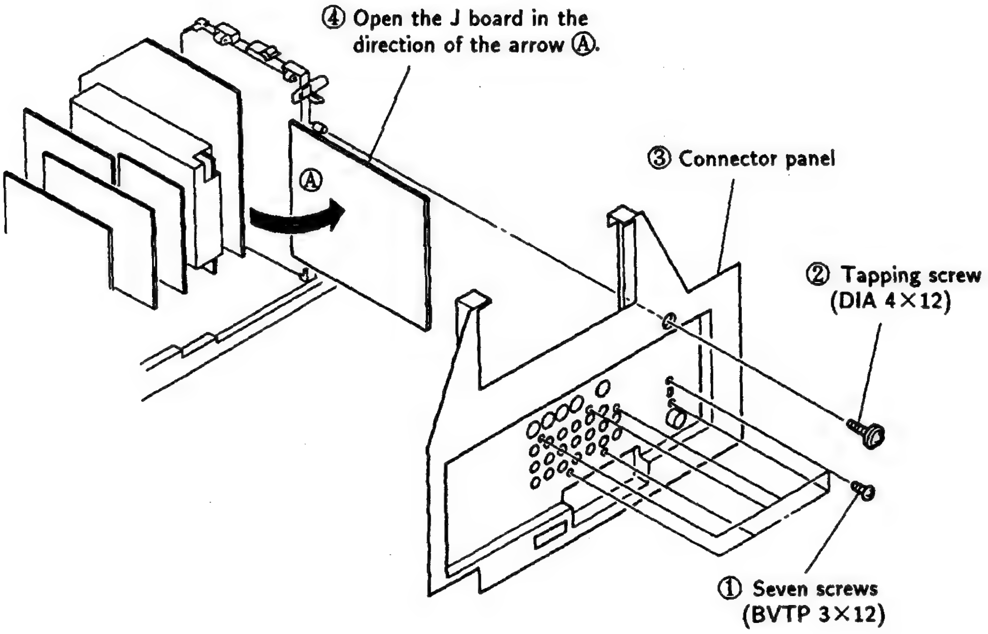
Parts No.	Connection
1-941-897-45	A-21toCRT BRACKET


1 : Black
2 : Black
White
L=40
White

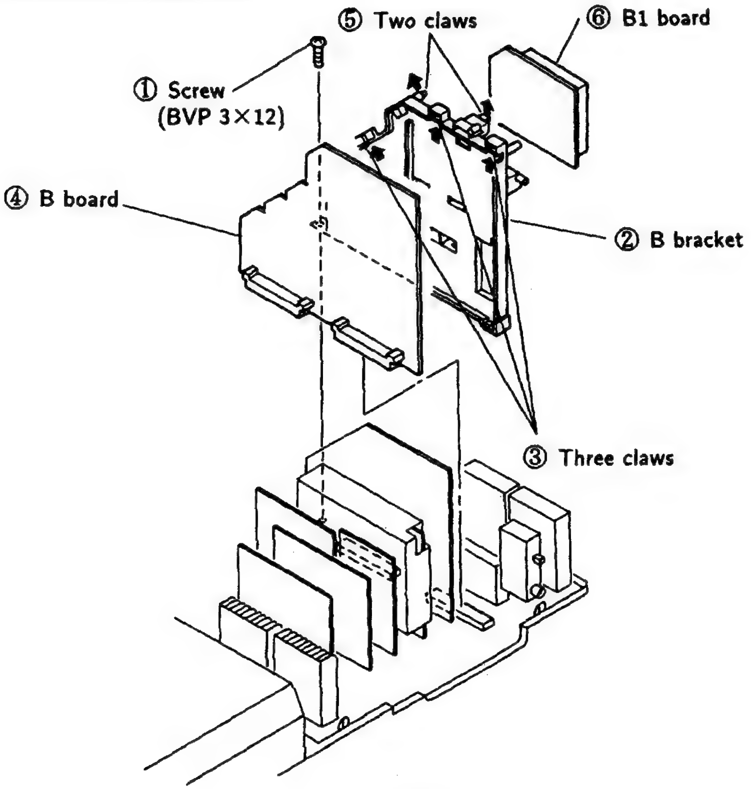
Parts No.	Connection
1-941-897-46	V-2toZR-3


1 : Brown
2 : —
3 : Red
Red
L=200
Red

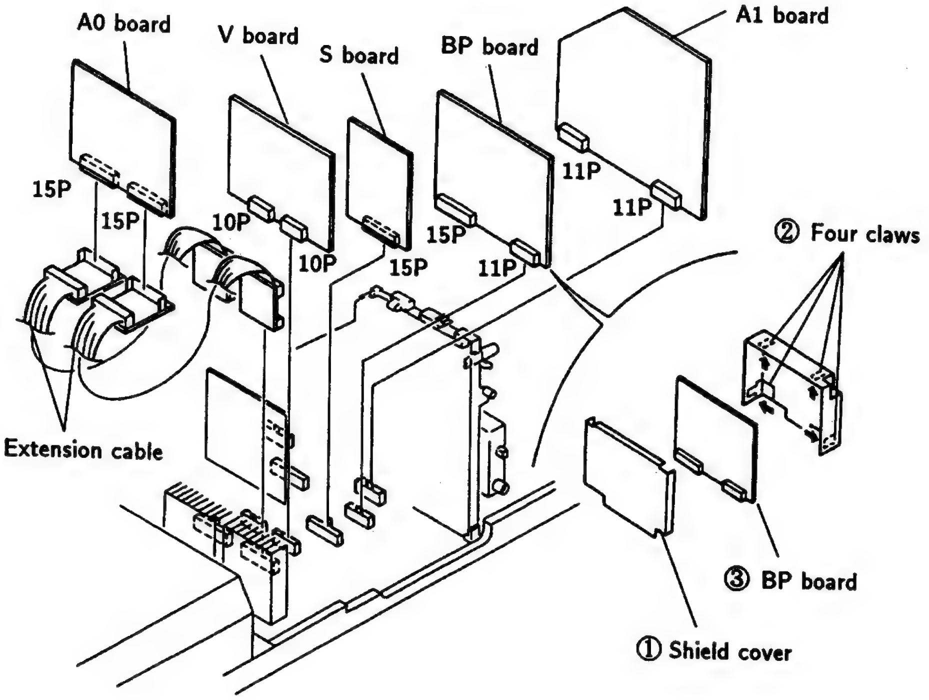
2-7. J BOARD REMOVAL


④ Open the J board in the direction of the arrow Ⓐ.
Ⓐ
③ Connector panel
② Tapping screw (DIA 4×12)
① Seven screws (BVTP 3×12)

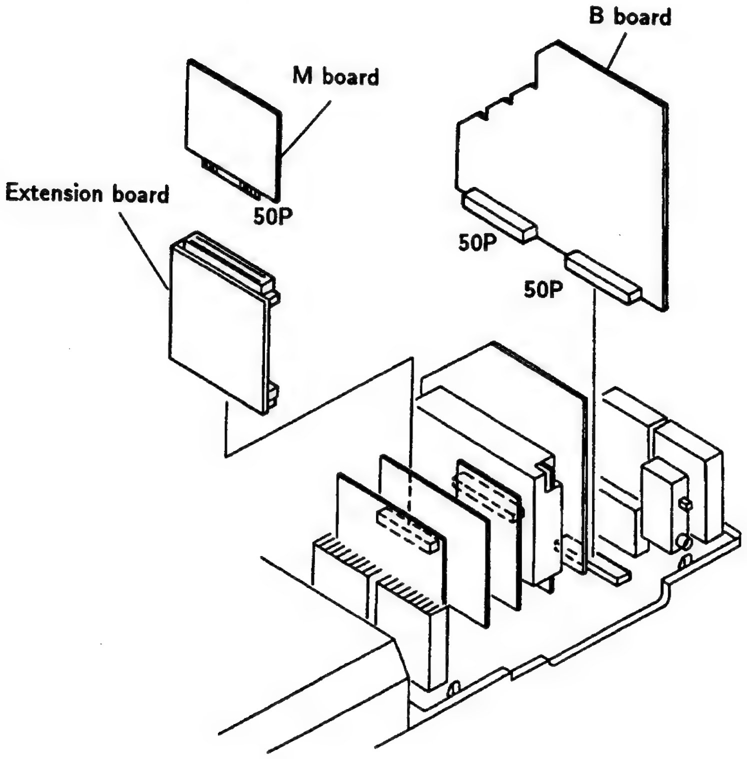
2-8. B AND B1 BOARDS REMOVAL


⑤ Two claws
⑥ B1 board
① Screw (BVP 3×12)
④ B board
② B bracket
③ Three claws

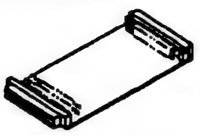
2-9. EXTENSION CABLE


A0 board
V board
S board
BP board
A1 board
15P
15P
10P
10P
15P
15P
11P
11P
11P
Four claws ②
Extension cable
③ BP board
① Shield cover

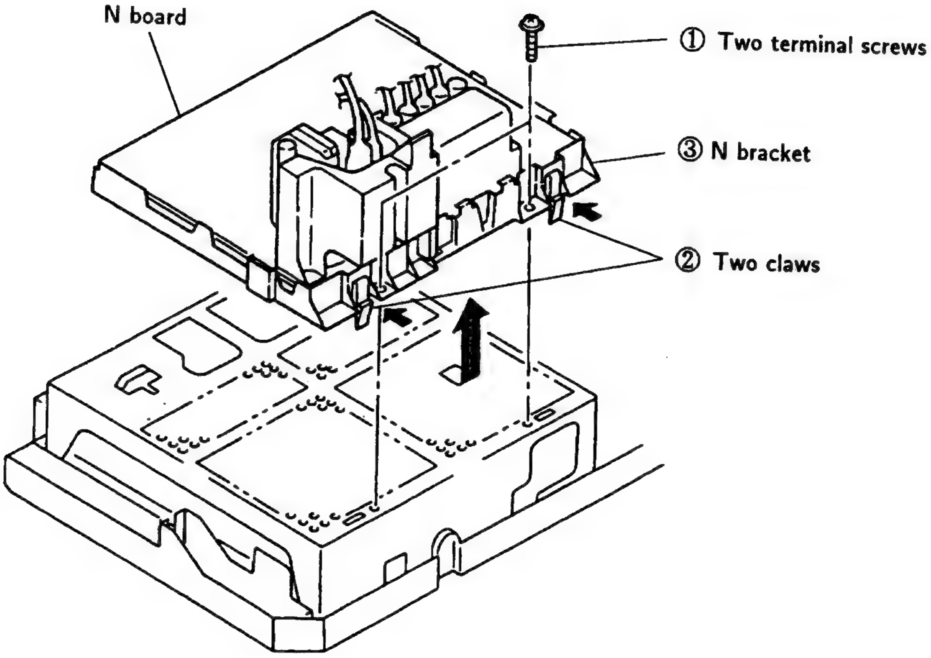
2-10. EXTENSION BOARD


B board
M board
Extension board
50P
50P
50P

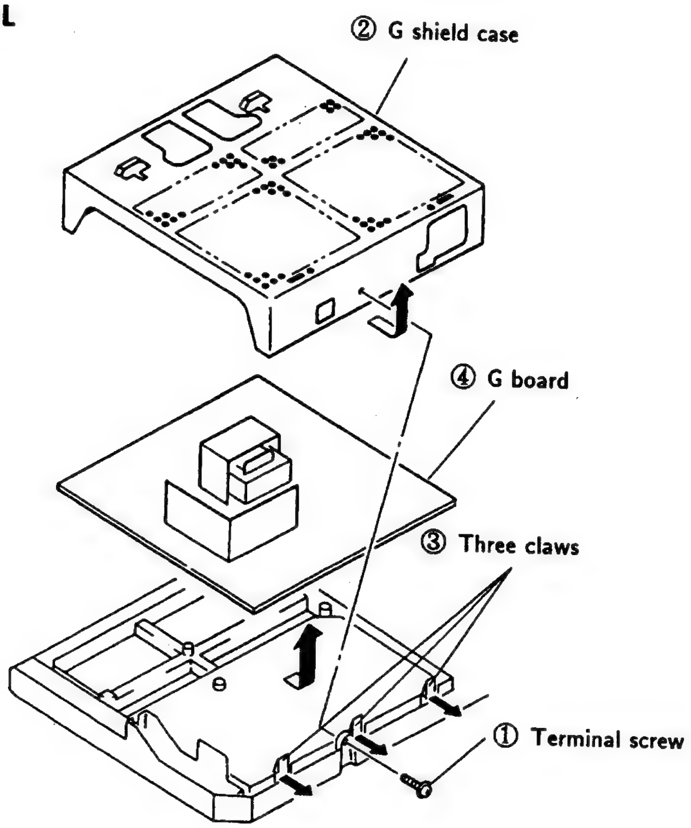
EXTENSION CABLES AND EXTENSION BOARDS LIST

B board	3-702-556-01	50P	2
V board	3-702-108-01	10P	1
A1 board	3-702-564-01	11P	2
BP board	3-702-564-01	11P	1
	3-702-565-01	15P	1
S board	3-702-565-01	15P	1
A0 board	3-702-565-01	15P	2
M board	3-702-560-01 50pin connector		
	3-702-556-01  Extension board		

2-11. N BRACKET REMOVAL


N board
① Two terminal screws
③ N bracket
② Two claws

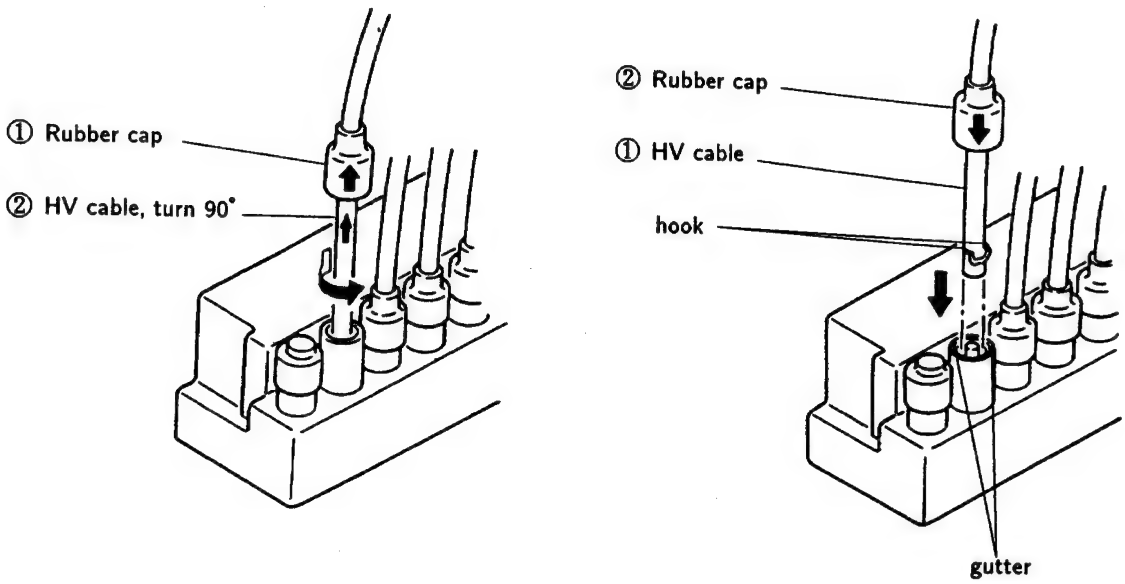
2-12. G BOARD REMOVAL


② G shield case
④ G board
③ Three claws
① Terminal screw

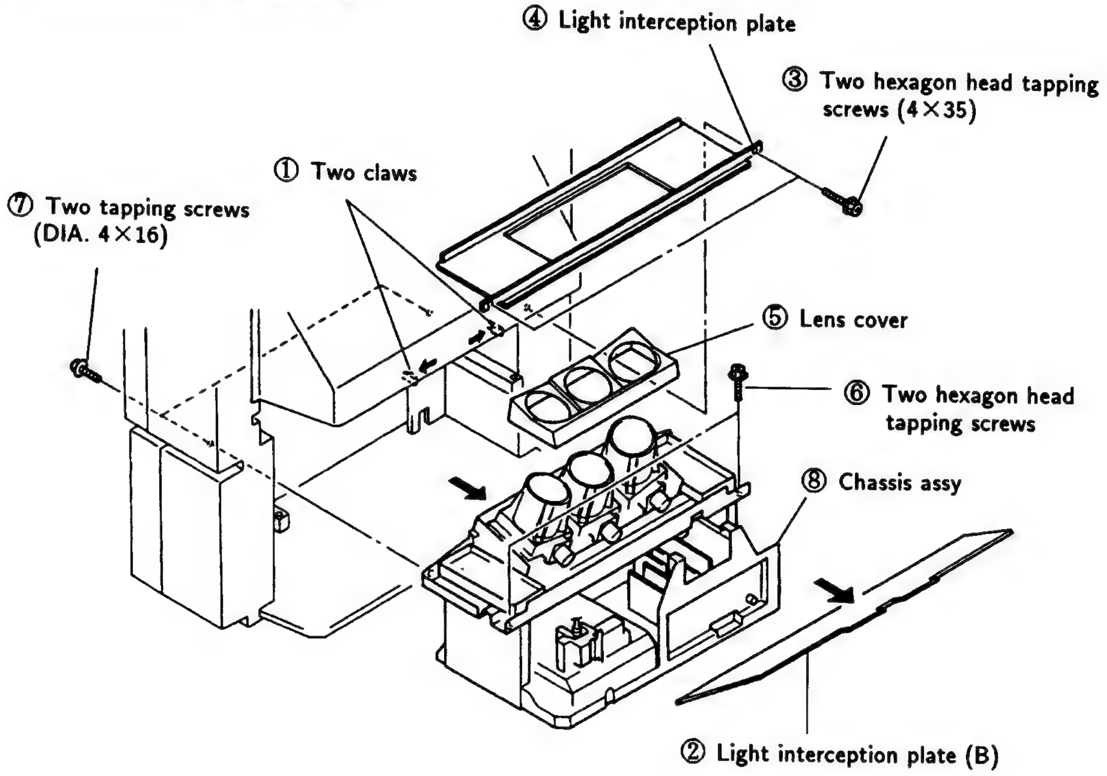
2-13. HIGH-VOLTAGE CABLE INSTALLATION AND REMOVAL

(1) Remover

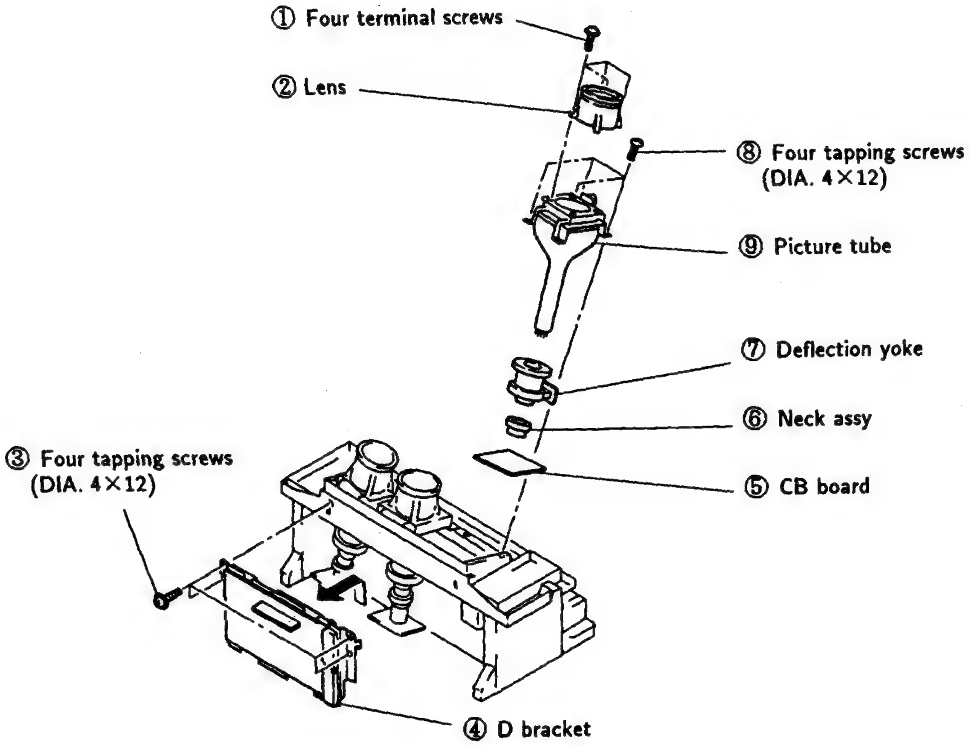
(2) Installation


① Rubber cap
② HV cable, turn 90°
② Rubber cap
① HV cable
hook
gutter

2-14. CHASSIS ASSY REMOVAL


④ Light interception plate
③ Two hexagon head tapping screws (4×35)
① Two claws
⑦ Two tapping screws (DIA. 4×16)
⑤ Lens cover
⑥ Two hexagon head tapping screws
⑧ Chassis assy
② Light interception plate (B)

2-15. PICTURE TUBE REMOVAL


① Four terminal screws
② Lens
⑧ Four tapping screws
(DIA. 4×12)
⑨ Picture tube
⑦ Deflection yoke
⑥ Neck assy
③ Four tapping screws
(DIA. 4×12)
⑤ CB board
④ D bracket

2-16. REPAIR OF CHIP COMPONENT CIRCUIT BOARD

2-16-1. POINTS OF COMPONENT REMOVAL

Handing of blower type soldering iron
If hot blast is too strong or applied from a slanting direction, small components and solder near the component being removed can be blown off. Do not use blower type without temperature control.

2-16-2. NOTES ON SOLDERING FOR CHIP COMPONENTS

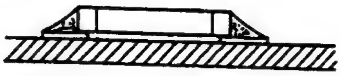
1) During soldering a chip component, if a soldering iron is applied for a long time, the heat may damage the component or cause pattern peeling.
2) Do not reuse a removed component. The characteristics of such a component may deteriorate.
3) Use wire solder containing silver (ϕ 0.3 or ϕ 0.6). (The pin electrodes of the laminated chip capacitor are silver +palladium, so if wire solder which does not contain silver is used, the silver of the pin electrode will be sucked into the solder.)

2-16-3. REMOVAL AND MOUNTING OF COMPONENTS

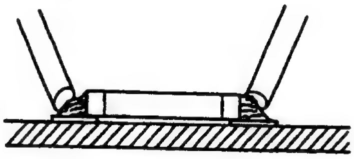
Chip resistor and chip capacitor

REMOVAL

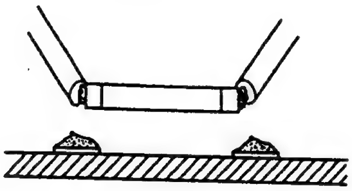
- Using two soldering irons
  1) Mounted state



2)Melt the solder.

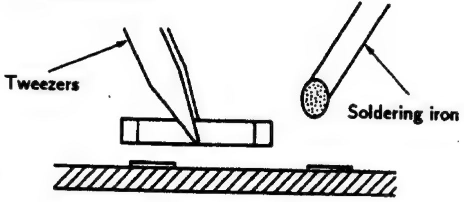


3)Remove the component.



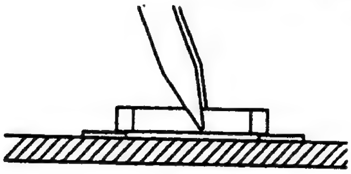
SOLDERING

1) Preparation

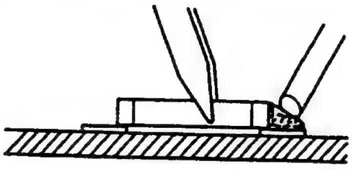


2) Location

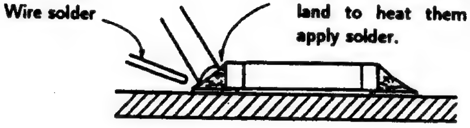
Be careful not to misposition.



3) Tack soldering and flux application

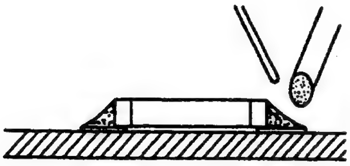


4) Soldering



Apply the soldering iron to the chip component and land to heat them and apply solder.

5) Soldering (Fix the fillet.)



6) Visual inspection

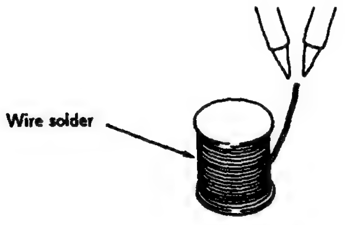
Check for the following defects :
- No-soldered part
- Bridge (to other components or lands)
- Mispositioning
- Other defects

2-16-4. MINI-TRANSISTOR

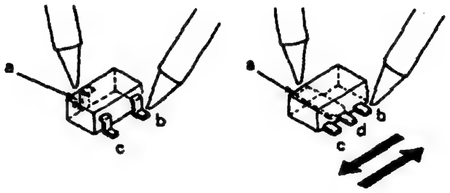
REMOVAL

- Using two soldering irons

1) Put a little solder on the tip of two soldering irons.

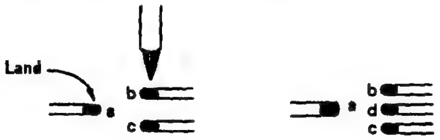

Wire solder

2) Apply the tip of one soldering iron to the point "a" and the other to the points "b" → "c" (or "b" → "d" → "c") and move the component in the directions indicated by arrows in the figure to remove it.

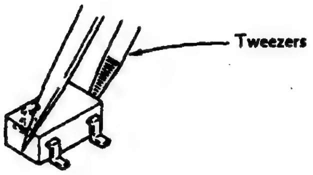


MOUNTING

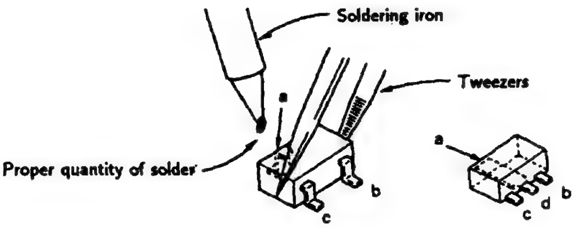
1) Apply a little flux to the land with a brush.


Land
b
a
c
b
a
d
c

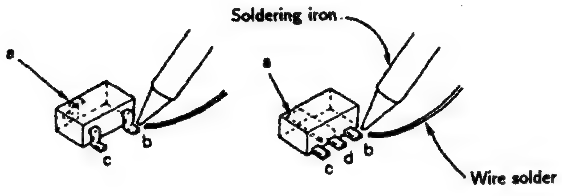
2) Place the component in position using tweezers.



3) Put a little solder on the tip of the soldering iron and solder the point "a" to fix the component.

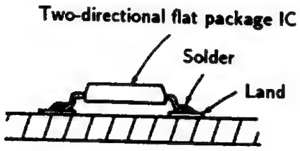

Soldering iron
Tweezers
a
Proper quantity of solder
b
c
a
b
d
c

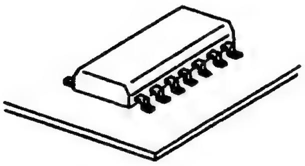
4) Bring the tip of the soldering iron and the wire solder close to the point to be soldered. Solder the points "b" → "c" (or "b" → "d" → "c") in order.


Soldering iron
a
b
c
a
b
d
c
Wire solder

2-16-5. TWO-DIRECTIONAL FLAT PACKAGE IC

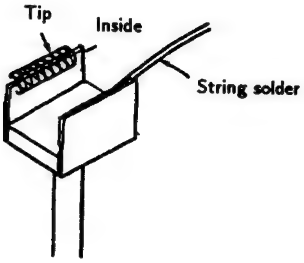
MOUNT CONDITION


Two-directional flat package IC
Solder
Land

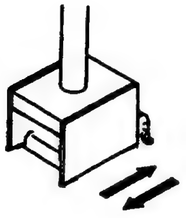


REMOVAL

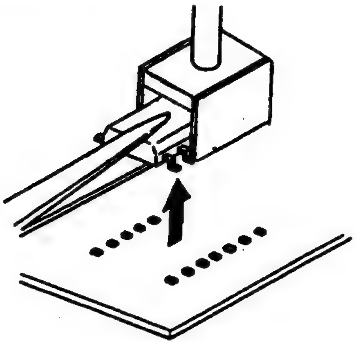
1) Apply some solder on the inside and the tip of the iron tip jig.


Tip
Inside
String solder

2) Place the iron tip jig over the IC, and move the jig to and fro as shown in the figure.

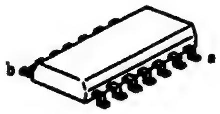


3) When the solder melts, lift the IC with a pair of tweezers and remove.

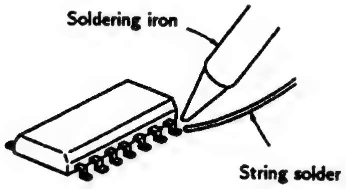


INSTALLATION

1) Place the two-directional flat package IC at the appointed position, solder pins a and b on the diagonal, and fasten it.

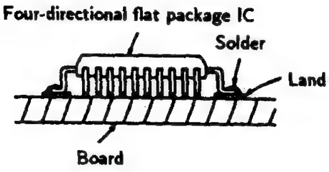


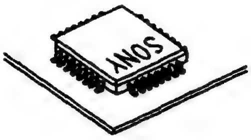
2) Solder the remaining pins with the soldering iron.


Soldering iron
String solder

2-16-6. FOUR-DIRECTIONAL FLAT PACKAGE IC

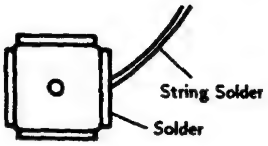
MOUNT CONDITION


Four-directional flat package IC
Solder
Land
Board

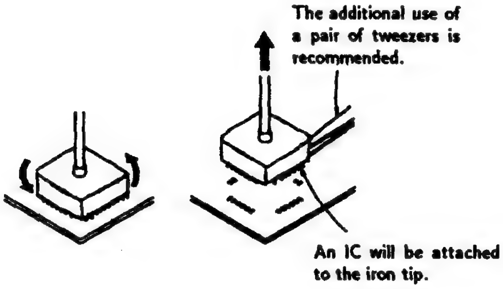


REMOVAL

1) Apply solder on the tip of the iron tip jig.


String Solder
Solder

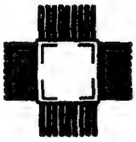
2) Place the iron tip jig over the IC, wait about two to three seconds, rotate the iron slightly and lift it up.


The additional use of a pair of tweezers is recommended.
An IC will be attached to the iron tip.

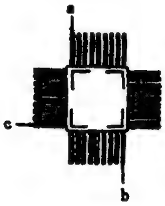
Note : For flat ICs of above 52P, the IC may not be completely attracted when the iron tip jig is lifted up. In these cases, use a pair of tweezers to remove.

INSTALLATION

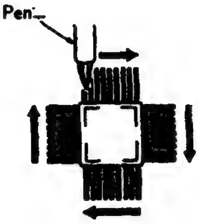
1) Place the four-directional flat package IC at the appointed position.



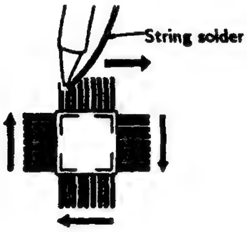
2) Apply a slight amount of solder on the iron tip, and solder the three sections in the order of a → b → c, and fix.



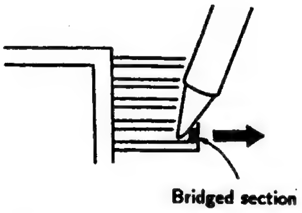
3) Apply a slight amount of flux with a pen on all four directions.



4) Apply solder on the iron tip and the string solder, and slide and solder in the directions of the arrows.


String solder

Note : 1) After soldering, if there are bridged sections, correct by sliding the soldering iron in the direction of the arrow.



If the bridges cannot be corrected using the above method, apply some flux with a pen and try again.

2) Soldering can be carried out more easily by sliding the iron tip near the tip of the IC leg. (Fig. A)

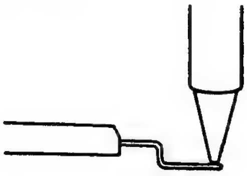


Fig. A

Be careful not to slide the bent sections of the leg as shown in Fig. B as soldering bridges will be formed.

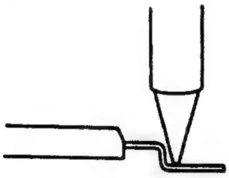


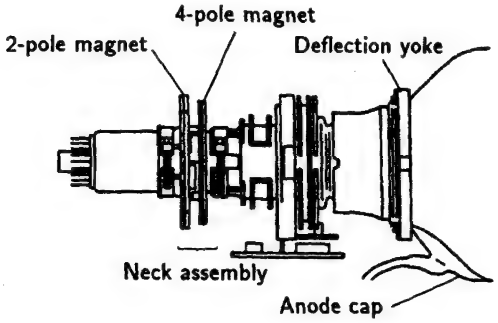
Fig. B

SECTION 3

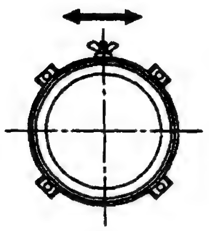
SETUP ADJUSTMENTS

3-1. FOCUS LENS ADJUSTMENTS

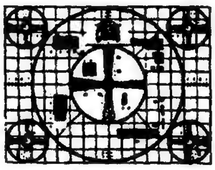
1. Set the D-board registration variable resistor (VR) and the position VR (CENTER VR) to mechanical.
2. Set the centering magnets (for red, green, and blue) to 0 as shown in the figure.

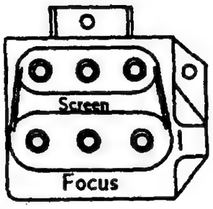


3. Input monoscope signal. Set 50% BRIGHTNESS and minimum PICTURE. Make rough adjustment so that 10IRE of the monoscope signal becomes faintly luminous.
4. Set PICTURE and BRIGHTNESS maximum. Press the commander menu button. Select CONVERGENCE to display test signal.
5. Enter service mode. Select R OFF of SERVICE MODE to cut off red output.
   Similarly, select B OFF to cut off blue output.
6. Turn the green lens to eliminate flare of the test signal.

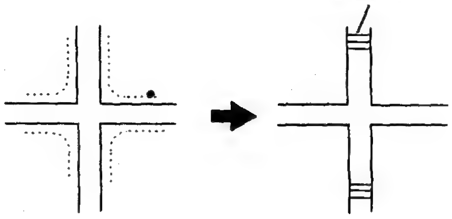


(Lens)



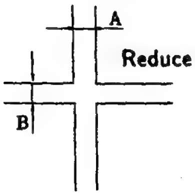


(Focus block)



Verify that scanning lines are seen.

7. Turn the green focus VR in the focus block to adjust green focus to reduce both A and B of the test signal to minimum.



Reduce both A and B to minimum.

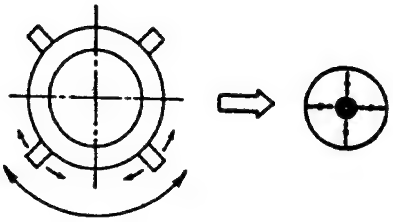
8. Repeat avobe 7. Couple of times to improve tracking and obtain an optimum lens focus. Then tighten the lens screws.

3-2. DEFLECTION YOKE POSITION ADJUSTMENTS

1. Input monoscope signal.
2. Enter service mode. Select R OFF of SERVICE MODE to cut off red output.
   Similarly, select B OFF to cut off blue output.
3. Loosen the deflection yoke (DY) fitting screws. Tilt the DY to obtain the best horizontal and vertical monoscope patterns.
4. After adjustment, press the DY onto the cathode ray tube (CRT) funnel and tighten the screws.
5. Also adjust DY positions for red and blue outputs in the same way.

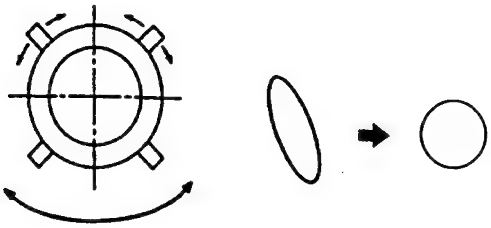
3-3. 2-POLE MAGNET ADJUSTMENT

1. Input dot signal.
2. Enter service mode. Select R OFF of SERVICE MODE to cut off red output.
   Similarly, select B OFF to cut off blue output.
3. Set PICTURE to maximum. Turn the green focus variable resistor (VR) in the focus block counterclockwise to brighten the point in the dot.
4. Adjust the 2-pole magnet to position the bright point at the center of the dot.
5. Adjust the red and blue dots in the same way.



3-4. 4-POLE MAGNET ADJUSTMENT

1. Input dot signal.
2. Enter service mode. Select R OFF of SERVICE MODE to cut off red output.
   Similarly, select B OFF to cut off blue output.
3. Set PICTURE to maximum. Turn the green focus variable resistor (VR) in the focus block clockwise until the dot diameter becomes 15 mm to 20 mm.
4. Adjust the 4-pole magnet to make the dot perfectly round.
5. Adjust the red and blue dot in the same way.



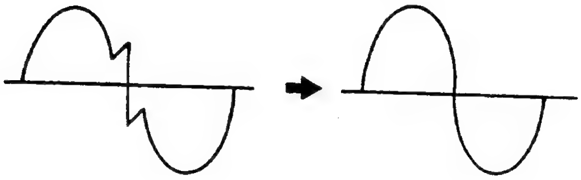
3-5. Ds ADJUSTMENT

1) HORIZONTAL WAVE ADJ.

1. Input a PAL color bar signal.
2. Connect the oscilloscope to pin① of IC1712 on Ds board.
3. Adjust RV984 (horizontal wave) of the waveform.

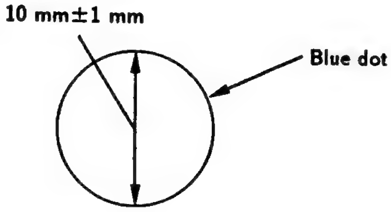
2) VERTICAL WAVE ADJ.

1. Input a PAL color bar signal.
2. Connect the oscilloscope to pin⑦ of IC1712 on Ds board.
3. Adjust RV983 (vertical wave) of the waveform.



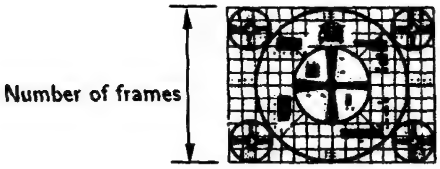
3-6. DE-FOCUS ADJUSTMENT (BLUE)

1. Input dot signal.
2. Turn the blue focus variable resistor (VR) in the focus block counter clock wise so that the diameter of the blue dot becomes 10±1mm.

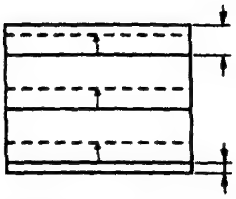


3-7. GREEN PICTURE ADJUSTMENTS

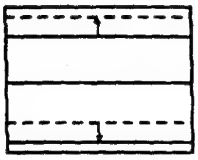
1. Input monoscope signal.
2. Enter service mode. Select R OFF of SERVICE MODE to cut off red output.
   Similarly, select B OFF to cut off blue output.
3. Turn RV913 and RV960, the vertical green linearity variable resistors (V.G LIN VRs) on the D-board, to obtain an optimum vertical linearity.
   Then turn RV911, the vertical green amplitube variable resistor (V.G SIZE VR) to set vertical amplitude to 11.2±0.2 flames.
   Note: The vertical position indicator of the monoscope signal must be positioned at the center by adjusting RV905, the vertical green center position variable resistor (V.G CENT VR) in advance.



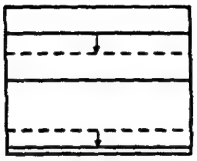
Monoscope signal



RV905 V.G CENT
(vertical position)

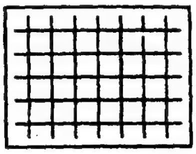


RV911 V.G SIZE
(vertical amplitude)

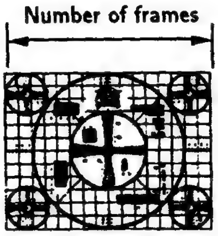


RV913 V.G LIN
RV960 M. LIN. S

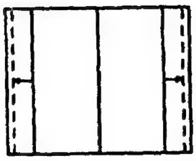
4. Verify that the horizontal lines on the top and bottom of cross-hatched area of the monoscope signal are horizontal and linear.



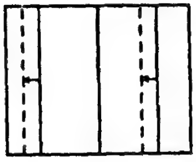
5. Turn RV916, RV964 and RV969, the horizontal green linearity variable resistors (H.G LIN VRs) on the D-board, to obtain an optimum horizontal linearity.
   Then turn RV908, the horizontal green amplitude variable resistor (H.G SIZE VR) to set horizontal amplitude to 14.8±0.2 frames.
   Note: The horizontal position indicator of the monoscope signal must be positioned at the center by adjusting RV902, the horizontal green center position variable resistor (V.G CENT VR) in advance.



Monoscope signal



RV908 H.G SIZE
(horizontal position)



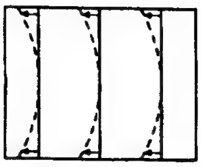
RV916 H.G LIN
RV964 M. LIN. S
RV969 M. LIN. L
(horizontal linearity)

6. Input cross hatch signal.
   Turn vertical green (V.G) and horizontal green (H.G) variable resistors (VRs) and make adjustments according to the following steps.

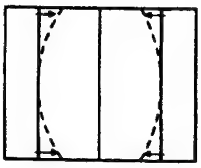
(Adjustment procedure)

1. [BOW] → [SKEW] → [CENT (center position)]
2. [PIN (pin warp)] → [SUB BOW] → [BOW]
3. [KEYS (trapezoid)] → [SUB SKEW] → [SKEW]
4. [M.WAVE (middle sine wave warp)] →
   [WAVE-A (upper and lower sine wave warp)] →
   [WAVE-U (upper sine wave warp)]
   ※ For vertical (V) only.
5. [V-M.PIN (vertical middle pin warp)] →
   [V/WING (vertical wing warp)]
   ※ For vertical (V) only.
6. [H-M.PIN (horizontal middle pin warp)]
   ※ For horizontal (H) only.

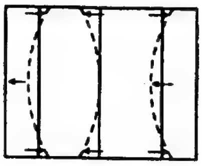
(Dot motion)



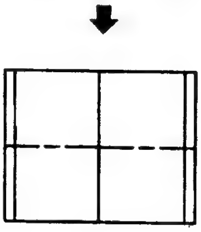
RV932 H.G BOW
(horizontal green bow)



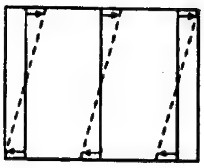
RV941 H.G PIN
(horizontal green pin warp)



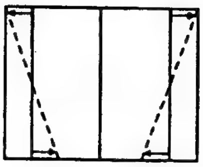
RV950 H.G SUB BOW
(horizontal green sub bow)



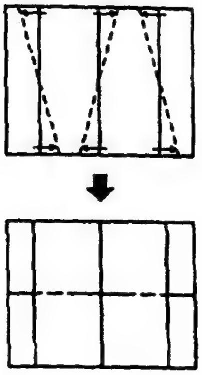
V.G BOW	RV935
V.G PIN	RV938
V.G SUB BOW	RV953



RV920 H.G SKEW
(horizontal green skew)

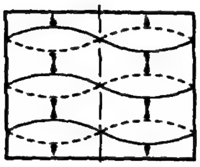


RV925 H.G KEYS
(horizontal green trapezoid)

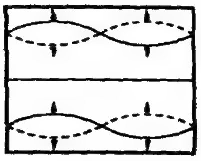


RV944 H.G SUB SKEW
(horizontal green sub skew)

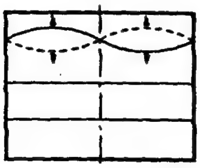
V.G SKEW	RV923
V.G KEYS	RV929
V.G SUB SKEW	RV947



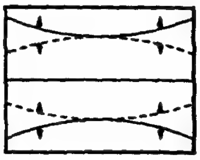
RV962 V-M-WAVE
(vertical middle sine wave warp)



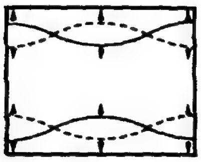
RV975 V-WAVE-A
(vertical upper and lower sine wave warp)



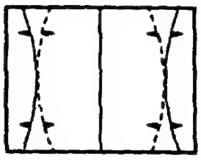
RV978 V-WAVE-U
(vertical upper sine wave warp)



RV980 V-M. PIN
(vertical middle pin warp)
※ Common in red, green, and blue



RV957 V/WING
(wing warp)
※ Common in red, green, and blue



RV956 H/M. PIN
(vertical middle pin warp)

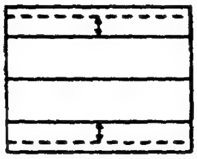
3-8. GREEN AND RED REGISTRATION ADJUSTMENTS

1. Input cross hatch signal.
2. Enter service mode. Select B OFF of SERVICE MODE to cut off blue output.
3. Turn the vertical red (V.R) and horizontal red (H R) variable resistors (VRs) to adjust red picture convergence in relation to green picture according to the following steps:

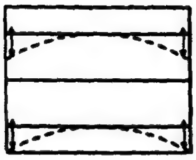
(Adjustment procedure)

1. [LIN (linearity)] → [SIZE (amplitude)] → [CENT (center position)] →
2. [BOW] → [SKEW] → [CENT (center position)]
3. [PIN (pin warp)] → [SUB BOW] → [BOW] [H/M. PIN (horizontal middle pin warp)]
4. [KEYS (trapezoid)] → [SUB SKEW] → [SKEW]
5. [M.WAVE (middle sine wave warp)] → [WAVE-A (upper and lower sine wave warp)] → [WAVE-U (upper sine wave warp)]
   ※ For vertical (V) only.

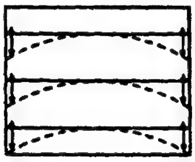
(Dot motion)



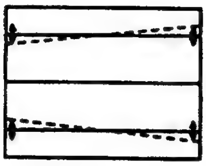
RV912 V.B SIZE
(vertical red amplitude)



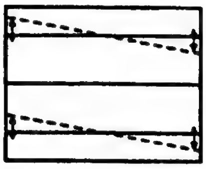
RV952 V.R SUB BOW
(vertical red sub bow)



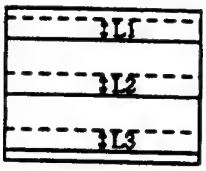
RV943 V.R BOW
(vertical red bow)



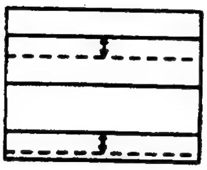
RV928 V.R KEYS
(vertical red trapezoid)



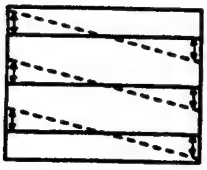
RV946 V.R SUB SKEW
(vertical red sub skew)



RV904 V.R CENT
(vertical red center position)



RV917 V.R LIN
(vertical red linearity)



RV922 V.R SKEW
(vertical red skew)

H.R LIN	RV915
H.R SIZE	RV907
H.R CENT	RV901
H.R BOW	RV931
H.R SKEW	RV919
H.R PIN	RV940
H.R KEYS	RV926
H.R SUB BOW	RV949
H.R SUB SKEW	RV943
V-M-WAVE	RV973
V-WAVE-A	RV976
V-WAVE-U	RV979
V-M.PIN	RV980
V/WING	RV957
H/M.PIN	RV956

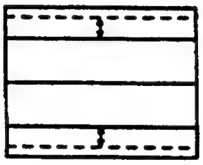
3-9. GREEN AND BLUE REGISTRATION ADJUSTMENTS

1. Input cross hatch signal.
2. Enter service mode. Select R OFF of SERVICE MODE to cut off red output.
3. Turn the vertical blue (V.B) and horizontal blue (H.B) variable resistors (VRs) to adjust blue picture convergence in relation to green picture according to the following steps:

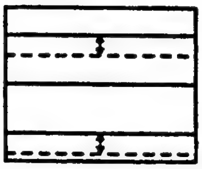
(Adjustment procedure)

1. [LIN (linearity)] → [SIZE (amplitude)] → [CENT (center position)] →
2. [BOW] → [SKEW] → [CENT (center position)]
3. [PIN (pin warp)] → [SUB BOW] → [BOW] [H/M. PIN (horizontal middle pin warp)]
4. [KEYS (trapezoid)] → [SUB SKEW] → [SKEW]
5. [M.WAVE (middle sine wave warp)] → [WAVE-A (upper and lower sine wave warp)] → [WAVE-U (upper sine wave warp)] →

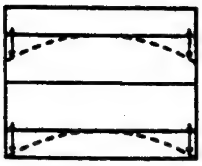
(Dot motion)



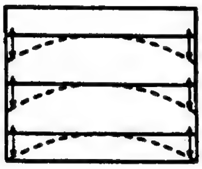
RV912 V.B SIZE
(vertical blue amplitude)



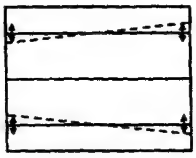
RV918 V.B LIN
(vertical blue linearity)



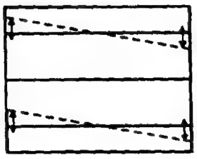
RV954 V.B SUB BOW
(horizontal blue sub bow)



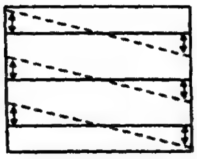
RV936 V.B BOW
(vertical blue bow)



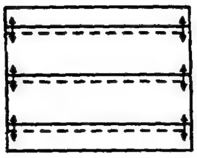
RV930 V.B KEYS
(vertical blue trapezoid)



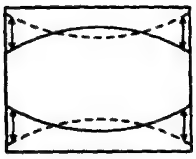
RV948 V.B SUB SKEW
(vertical blue sub skew)



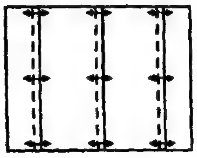
RV924 V.B SKEW
(vertical blue skew)



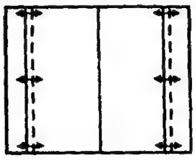
RV906 V.B CENT
(vertical blue center position)



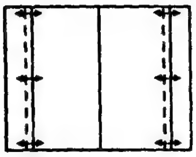
RV939 V.B PIN
(vertical blue pin warp)



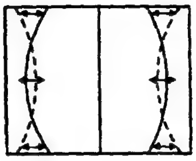
RV903 H.B CENT
(vertical blue center position)



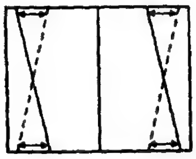
RV909 H.B SIZE
(horizontal blue amplitude)



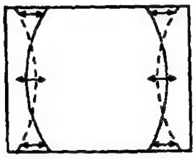
RV914 H.B LIN
(horizontal blue linearity)



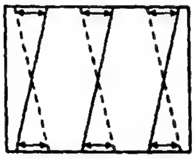
RV942 H.B PIN
(horizontal blue pin warp)



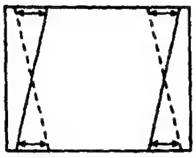
RV945 H.B SUB SKEW
(horizontal blue sub skew)



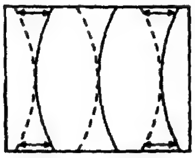
RV951 H.B SUB BOW
(horizontal blue sub bow)



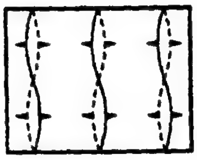
RV921 H.B SKEW
(horizontal blue skew)



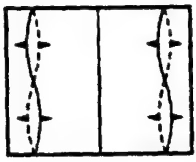
RV927 H.B KEYS
(horizontal blue trapezoid)



RV933 H.B BOW
(horizontal blue bow)



RV981
※ Common in red,
green, and blue



RV982
※ Common in red,
green, and blue

H/M PIN	RV958
M.WAVE	RV961
WAVE-A	RV974
WAVE-U	RV977

SECTION 4
CIRCUIT ADJUSTMENTS

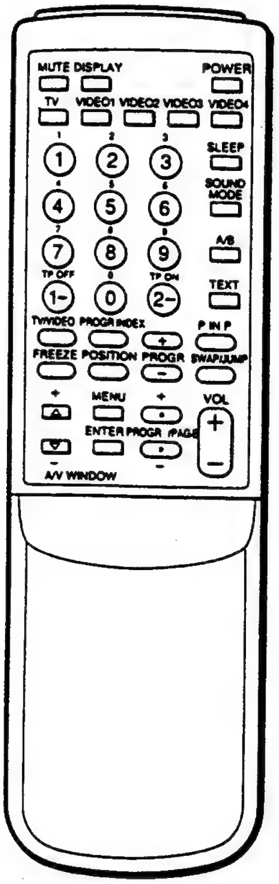
4-1. ADJUSTMENTS WITH COMMANDER

Service adjustments are made with the RM-821 that comes with this unit.

Entering service mode

With the unit on standby
⇩
"DISPLAY"
⇩
"5"
⇩
"VOL (+)"
⇩
"POWER"

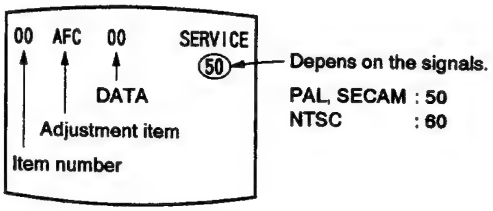
This operation sequence puts the unit into service mode.


MUTE
DISPLAY
POWER
TV
VIDEO1
VIDEO2
VIDEO3
VIDEO4
SLEEP
SOUND MODE
A/B
TEXT
TP OFF
TP ON
1
2
3
4
5
6
7
8
9
0
1-
2-
TV/VIDEO
PROGR INDEX
P IN P
FREEZE
POSITION
PROGR
SWAP/JUMP
MENU
VOL
ENTER
PROGR
/PAGE
A/V WINDOW

"1", "4"	Raise/lower the service item number
"3", "6"	Raise/lower the data
"MUTE"	Writes
"0"	Executes the writing

"7", "0"	The data all becomes the values in memory
"8", "0"	User control all goes to the standard state
"9"	H-FRE automatic adjustment
"5", "0"	Service data initialization (Besure not to use usually.)
"2", "0"	Write 50 Hz adjustment data to 60 Hz, or in opposition.

The screen display is:


00
AFC
00
SERVICE
50
DATA
Adjustment item
Item number
Depens on the signals.
PAL, SECAM : 50
NTSC : 60

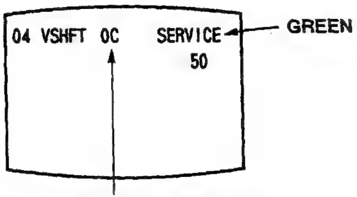
"1", "4" Select the adjustment item.
⬇
"3", "6" Raise/lower the data.
⬇
"MUTE" Writes.
⬇
"0" Executes the writing.

4-2. ADJUSTMENT METHOD

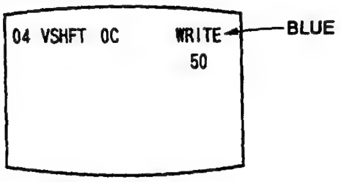
Item Number 04

This explanation uses VSHFT as an example.

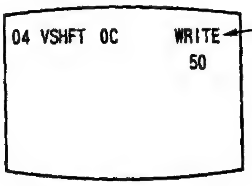
1. Select 04 VSHFT with the "1" and "4" buttons.
2. Raise/lower the data with the "3" and "6" buttons.
3. Select the optimum state. (The standard is for 0F PAL reception.)
4. Write with the MUTE button. (The display changes to blue WRITE.)
5. Execute the writing with the "0" button. (The WRITE display changes briefly to red.)



Adjusted with "3" and "6" buttons



Written with "MUTE"



RED
The WRITE display changes briefly to red, then the display returns to a green SERVICE.

Write excuted with "0"

Use the same method for Items Number 00 – 50. Use "1" and "4" to select the adjustment item, use "3" and "6" to adjust, write with "MUTE", then execute the write with "0".

Note: In "WRITE", the data of all items are wrote together to memory.

- H-FRE can be adjusted automatically. Feed a standard signal and input "9", the automatic adjustment is executed.
- As for VFREQ, by searching the bolded screen V range with adjusting data.

Note: In item 02 50 Hz, or item 03 60 Hz, it operates normally in spite of the 50 Hz or the 60 Hz of the input signal. Therefore be suure to adjust data according to the input signal.

AN ITEM OF ADJUSTMENT

LABSEL	ITEM	DATA SPHERE	STANDARD *		NAME REGIST
			50 Hz	60 Hz	
0	AFC	00~03	00	00	AFC SW
1	HFRE	00~7 F	45	40	H FREQUENCY
2	VFR 5	00~1 F	0F		V FREQUENCY 50
3	VFR 6	00~1 F	0F		V FREQUENCY 60
4	VSFT	00~1 F	0C	0C	V SHIFT
5	VSIZ	00~3 F	26	27	V SIZE
6	VLIN	00~0 F	07	07	V LINEARITY
7	VSCO	00~0 F	07	07	V S CORRECT
8	HPHA	00~0 F	03	05	H SENT
17	VSM 5	00~01	00		V LOCK RANGE SW 50
18	VSM 6	00~01	00		V LOCK RANGE SW 60
28	SPIC	00~1 F	0 D		SUB PICTURE
29	SHUE	00~1 F	0 D		SUB HUE
30	SCOL	00~1 F	0 D		SUB COLOR
31	SBRT	00~1 F	0 D		SUB BRIGHTNESS
32	SSHP	00~1 F	0 D		SUB SHARPNESS
33	SBAL	00~1 F	0 D		SUB BALANCE
34	VM	00~02	00		VM ON/OFF/NR SYNC.
35	MDSH	00~3 F	35		MAIN SCREEN DISPLAY POSITION H DIRECTION
36	SDSH	00~3 F	0 E		PiP SCREEN DISPLAY POSITION H DIRECTION
37	PIPH	00~3 F	20	20	PinP H CENT POSITION
38	PIPV	00~0 F	08	08	PinP V CENT POSITION
39	PIPL	00~0 F	08		PinP OUT LEVEL
40	PIPC	00~07	04		PinP FRAME COLOR
41	PIPD	00~07	00	00	PinP DELAY
42	PIVS	00~07	04	04	PinP V CORRECT
43	PIHS	00~0 F	07	04	PinP H CORRECT
44	TXPC	00~0 F	05		TEXT PICTURE
45	BLUE	00~02	00		NO SIGNAL BLUE BACK Yes/No
46	OSD	00~01	00		SCREEN DISPLAY START POSITION
47	MDSV	00~1 F	0 F		MAIN SCREEN DISPLAY POSITION V DIRECTION
48	DEGA	00~01	※		DEGAUSS ON/OFF
49	ONDL	00~FF	80		POWER ON DELAY TIME
50	MUTE	00~01	01		NO SIGNAL SOUND MUTE Yes/No
51	GAMP	00~1 F	0 F		G DRIVE
52	BAMP	00~1 F	0 F		B DRIVE
53	GCUT	00~0 F	07		G CUT OFF
54	BCUT	00~0 F	07		B CUT OFF
55	SBR 2	00~1 F	0 D		SUB BRIGHTNESS
56	IK	00~03	01		IK REF PULSE
57	R-ON	00~01	01		R ON
58	G-ON	00~01	01		G ON
59	B-ON	00~01	01		B ON
60	ABLM	00~01	00		ABL MODE

* 50 : PAL input signal standard
* 60 : NTSC input signal standard

Notes :
08 H-PHA is adjusted with data 00-07.
34 VM does not function.
46 OSD is set to 0.
48 DEGA is set to 1.
49 OND is set to 80.
39 PIPL is set to 01 for M37204M8-A10SP (M M't IC 005)
08 for M37204M8-xxx
50 MUTE can not be selected for M37204M8-A10SP
32 SSHP is set to 03 for M37204M8-A10SP
0D for M37204M8-xxx

4-3. PICTURE QUALITY ADJUSTMENTS

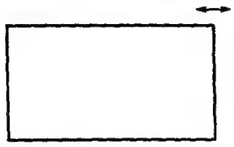
Item Numbers 28 – 33

SPIC	When it is out of order in the user 50% condition, be sure to adjust.
SHUE	
SCOL	
SBRT	
SSHP	Set to the standard values.
SBAL	

4-4. DISPLAY POSITION ADJUSTMENT

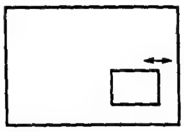
Item Numbers 35 – 43

35 MDSH Main screen display position, horizontal



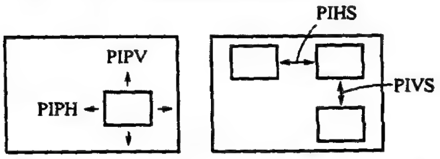
Stretches/contracts the right side of the screen.

36 SDSH PinP screen display position



Stretches/contracts the right side of the child screen.

37 PIPH Pin-P horizontal position correction
38 PIPV Pin-P vertical position correction
42 PIVS Pin-P vertical correction
43 PIHS Pin-P horizontal correction

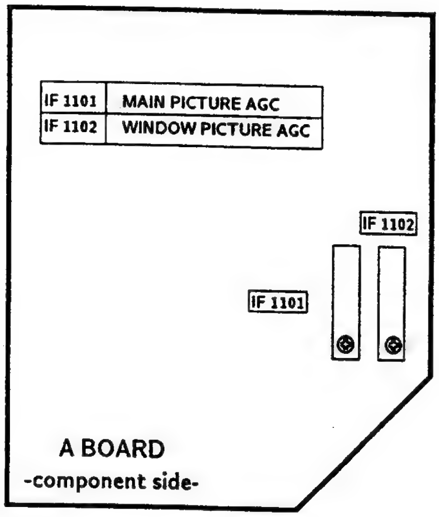


- When pressing PIP "POSITION" key in the servicce mode, "POSITION" turns round and round automatically.

Item Numbers 39 – 41 and 47 are set to the standard values.

44 TXPIC Text picture
Corrects the brightness for when teletext is received.
Standard value is 05.

4-5. A BOARD ADJUSTMENTS


IF 1101 MAIN PICTURE AGC
IF 1102 WINDOW PICTURE AGC
IF 1102
IF 1101
A BOARD
-component side-

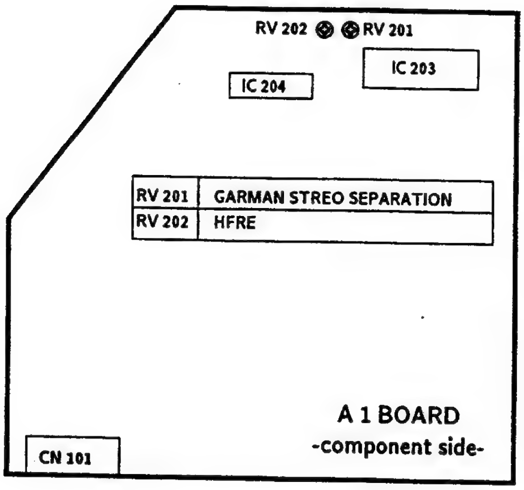
Main screen AGC adjustment (IF1101)

1. Receive an off-air signal.
2. Adjust the IF1101 RF AGC VR so that there is no snow noise or cross-modulation.
3. Switch the channel and verify the adjustment.

PinP screen AGC adjustment (IF1102)

1. Receive an off-air signal.
2. Adjust the IF1102 RF AGC VR so that there is no snow noise or cross-modulation.
3. Switch the channel and verify the adjustment.

4-6. A1 BOARD ADJUSTMENTS


RV 202
RV 201
IC 203
IC 204
RV 201 GARMAN STREO SEPARATION
RV 202 HFRE
CN 101
A 1 BOARD
-component side-

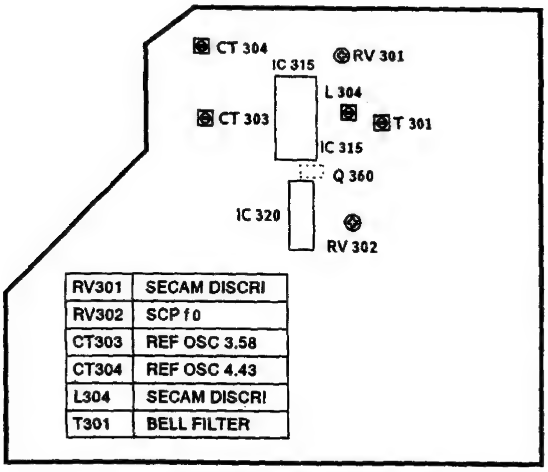
German stereo separation adjustment (RV201)

1. Input a 400 Hz signal to the left and a 1 kHz signal to the right.
2. Connect an oscilloscope to Pins ⑧ and ⑨ of CN101.
3. Adjust RV201 so that a 400Hz sine wave is output from Pin ⑧ and a 1 kHz sin wave is output from Pin ⑨.

Horizontal frequency adjustment (RV202)

1. Connect Pin ⑫ of IC204 to ground.
2. Receive a PAL color bar signal.
3. Connect a frequency counter to Pin ⑬ of IC203.
4. Adjust RV202 for a frequency of 15625 ± 50 Hz.
5. Remove the ground from Pin ⑫ of IC204.

4-7. B BOARD ADJUSTMENTS

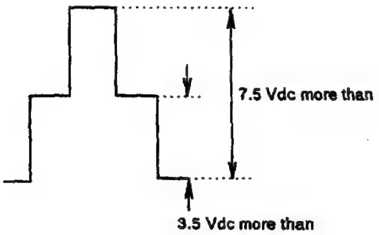

CT 304
IC 315
RV 301
L 304
CT 303
T 301
IC 315
Q 360
IC 320
RV 302

RV301	SECAM DISCRI
RV302	SCP f0
CT303	REF OSC 3.58
CT304	REF OSC 4.43
L304	SECAM DISCRI
T301	BELL FILTER

B BOARD (MAIN PICTURE)
-component side-

SCP f0 adjustment (RV302)

1. Connect Pin ⑫ of IC320 to ground.
2. Connect a frequency counter to Pin ④ of IC320.
3. Adjust RV302 for a frequency of 15.625 kHz.
4. Check that the SCP pulse is output at Pin ⑥ of IC320.


7.5 Vdc more than
3.5 Vdc more than

5. Remove the ground from Pin ⑫ of IC320.

Reference oscillation adjustment (CT304)

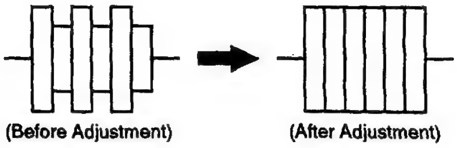
1. Connect Pin ⑰ of IC315 to ground.
2. Input a PAL color bar signal.
3. Adjust CT304 to the point where the screen moves the slowest.
4. Remove the ground from Pin ⑰ of IC315.

Reference oscillation adjustment (CT303)

1. Connect Pin ⑰ of IC315 to ground.
2. Input a 3.58 NTSC color bar signal.
3. Adjust CT303 to the point where the screen moves the slowest.
4. Remove the ground from Pin ⑰ of IC315.

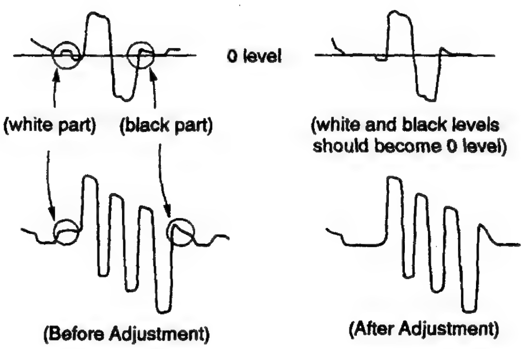
Bell filter adjustment (T301)

1. Input a SECAM color bar signal.
2. Connect an oscilloscope to the emitter of Q360.
3. Adjust T301 so that the waveform is flat.

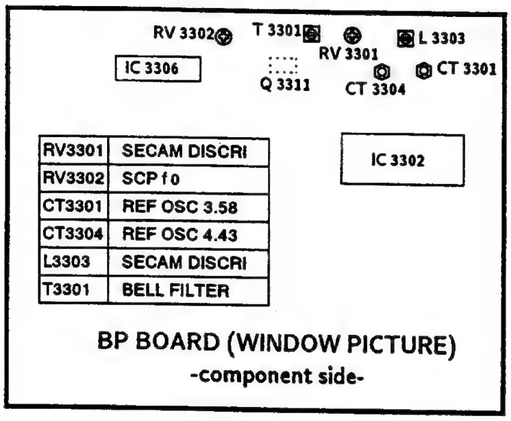

(Before Adjustment)
(After Adjustment)

SECAM DISCRI adjustment (RV301, L304)

1. Input a SECAM color bar signal.
2. Connect an oscilloscope to Pin ① of IC315.
3. Adjust RV301 so that the sections corresponding to white and black are at 0 level.
4. Connect the oscilloscope to Pin ③ of IC315.
5. Adjust L304 so that the sections corresponding to white and black are at 0 level.
6. Carry out the 2 – 5 tracking.


0 level
(white part)
(black part)
(white and black levels should become 0 level)
(Before Adjustment)
(After Adjustment)

4-8. BP BOARD ADJUSTMENTS (PinP screen)

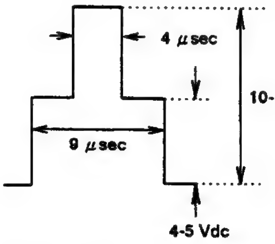

RV 3302
T 3301
L 3303
RV 3301
IC 3306
CT 3301
Q 3311
CT 3304
IC 3302

RV3301	SECAM DISCRI
RV3302	SCP f o
CT3301	REF OSC 3.58
CT3304	REF OSC 4.43
L3303	SECAM DISCRI
T3301	BELL FILTER

BP BOARD (WINDOW PICTURE)
-component side-

SCP fo adjustment (RV3302)

1. Connect Pin⑫ of IC3306 to ground.
2. Connect a frequency counter to Pin④ of IC3306.
3. Adjust RV3302 for 15.625 kHz.
4. Check that the SCP pulse is output at Pin⑥ of IC3306.


4 μsec
10-11 Vdc
9 μsec
4-5 Vdc

5. Remove the ground from Pin⑫ of IC3306.

Reference oscillation adjustment (CT3304)

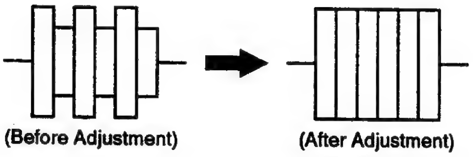
1. Connect Pin⑰ of IC3302 to ground.
2. Input a PAL color bar signal to the PinP screen.
3. Adjust CT3304 to the point where the screen moves the slowest.
4. Remove the ground from Pin⑰ of IC3302.

Reference oscillation adjustment (CT3301)

1. Connect Pin⑰ of IC3302 to ground.
2. Input a 3.58 NTSC color bar signal.
3. Adjust CT3301 to the point where the screen moves the slowest.
4. Remove the ground from Pin⑰ of IC3302.

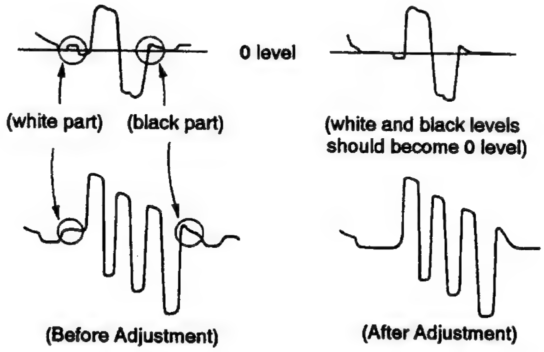
Bell filter adjustment (T3301)

1. Input a SECAM color bar signal.
2. Connect an oscilloscope to the emitter of Q3311.
3. Adjust T3301 so that the waveform is flat.

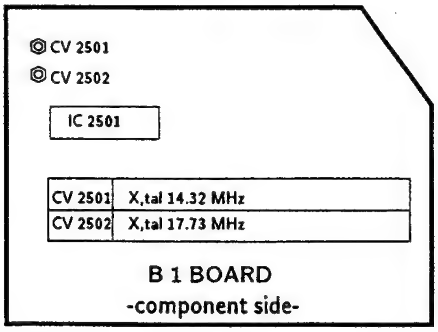

(Before Adjustment)
(After Adjustment)

SECAM DISCRI adjustment (RV3301, L3303)

1. Input a SECAM color bar signal.
2. Connect an oscilloscope to Pin① of IC3302.
3. Adjust RV3301 so that the sections corresponding to white and black are at 0 level.
4. Connect the oscilloscope to Pin③ of IC3302.
5. Adjust L3303 so that the sections corresponding to white and black are at 0 level.
6. Carry out the 2 – 5 tracking.


0 level
(white part)
(black part)
(white and black levels should become 0 level)
(Before Adjustment)
(After Adjustment)

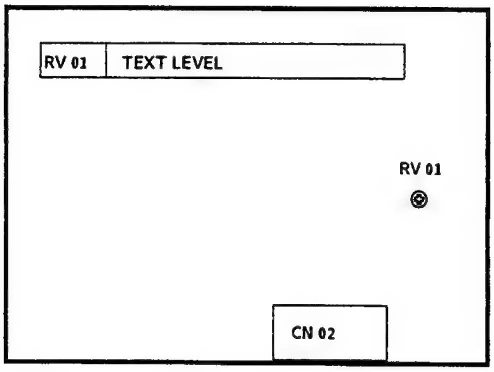
4-9. B1 BOARD ADJUSTMENT


CV 2501
CV 2502
IC 2501
CV 2501 X,tal 14.32 MHz
CV 2502 X,tal 17.73 MHz
B 1 BOARD
-component side-

Crystal adjustment (CV2502)

1. Put the unit into the no-signal state.
2. Select PAL with COLOR SYSTEM.
3. Connect a frequency counter to Pin ⑰ of IC2501.
4. Adjust CV2502 for a frequency of 17.73447 MHz ± 100 Hz.
5. Select NTSC with COLOR SYSTEM.
6. Adjust CV2501 for a frequency of 14.31818 MHz ± 100 Hz.

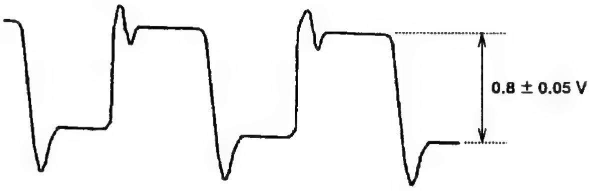
4-10. V BOARD ADJUSTMENT


RV 01 TEXT LEVEL
RV 01
CN 02

V BOARD
-component side-

Text level adjustment (RV01)

1. Receive a teletext signal.
2. Connect an oscilloscope to Pin ④ of CN02.
3. Adjust RV01 for a voltage of 0.5 ± 0.05 V.

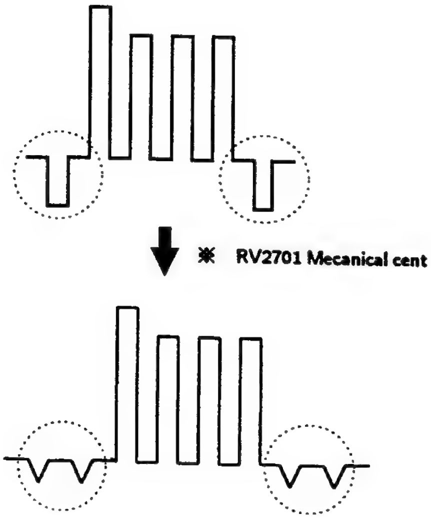


Note: The item 44 TXPIC should be set to 05 value in the service mode.

4-11. A0 BOARD ADJUSTMENT

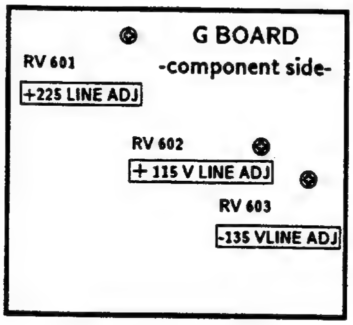
RGB pedestal adjustment (RV2704)

1. Input a PAL color-bar signal.
2. Connect an oscilloscope to B output of TP2701 A0 board.
3. Adjust RV2704 so that the waveform as shown.


※ RV2701 Mecanical cent

4. Connect an oscilloscope to G output of TP2702 A0 board.
5. Adjust RV2702 so that the waveform as shown.
6. Connect an oscilloscope to R output of TP2703 A0 board.
5. Adjust RV2703 so that the waveform as shown.

4-12. G BOARD ADJUSTMENTS


G BOARD
-component side-
RV 601
+225 LINE ADJ
RV 602
+ 115 V LINE ADJ
RV 603
-135 VLINE ADJ

+225 V line adjustment (RV601)

1. Input the color-bar signal.
2. Connect a digital multimeter to emitter of Q604.
3. Adjust RV601 so that voltage is +225 ± 0.5 V.

+115 V line adjustment (RV602)

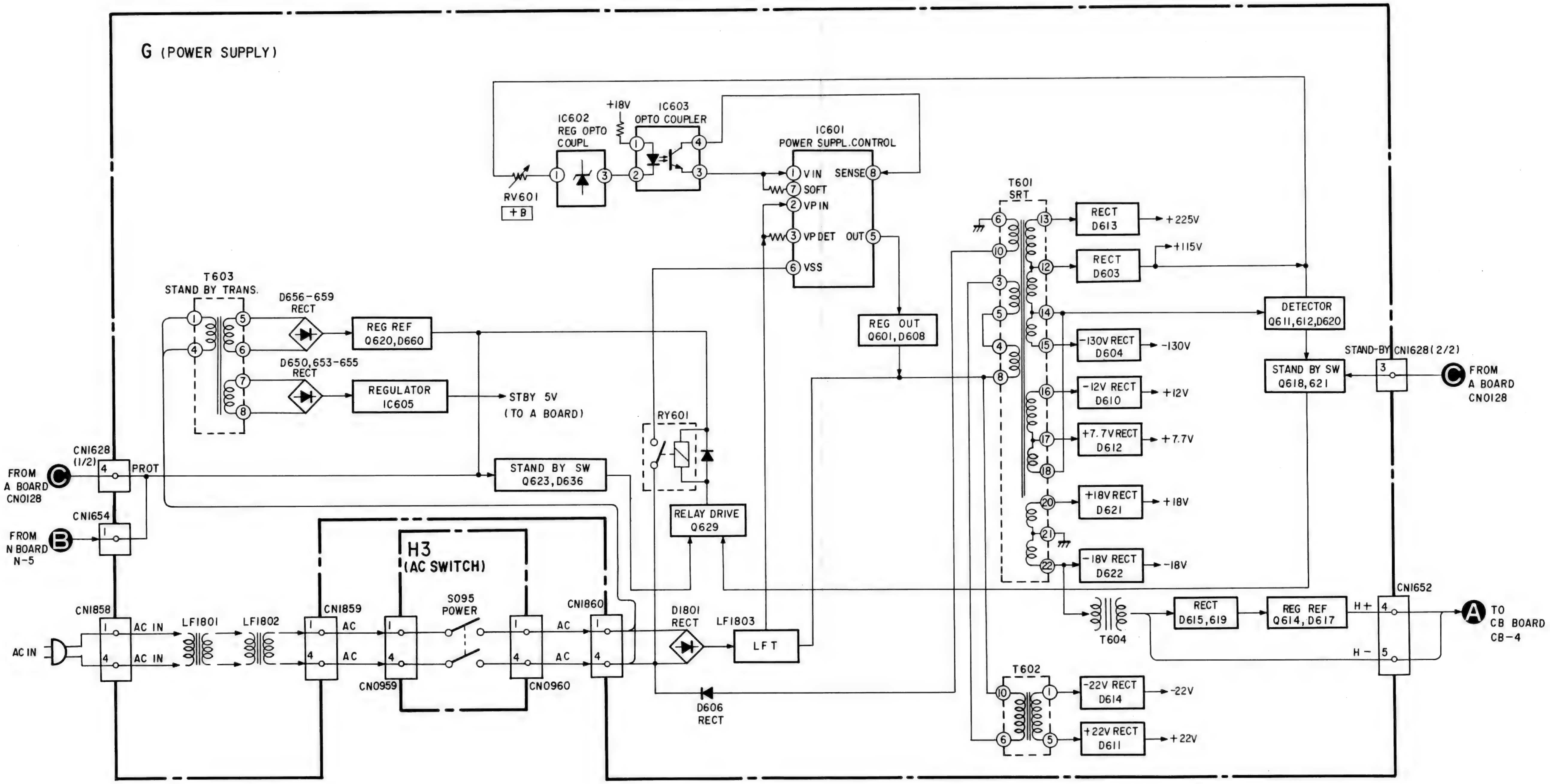
1. Input the color-bar signal.
2. Connect a digital multimeter to emitter of Q601.
3. Adjust RV602 so that voltage is +115 ± 1.0 V.

– 125 V line adjustment (RV603)

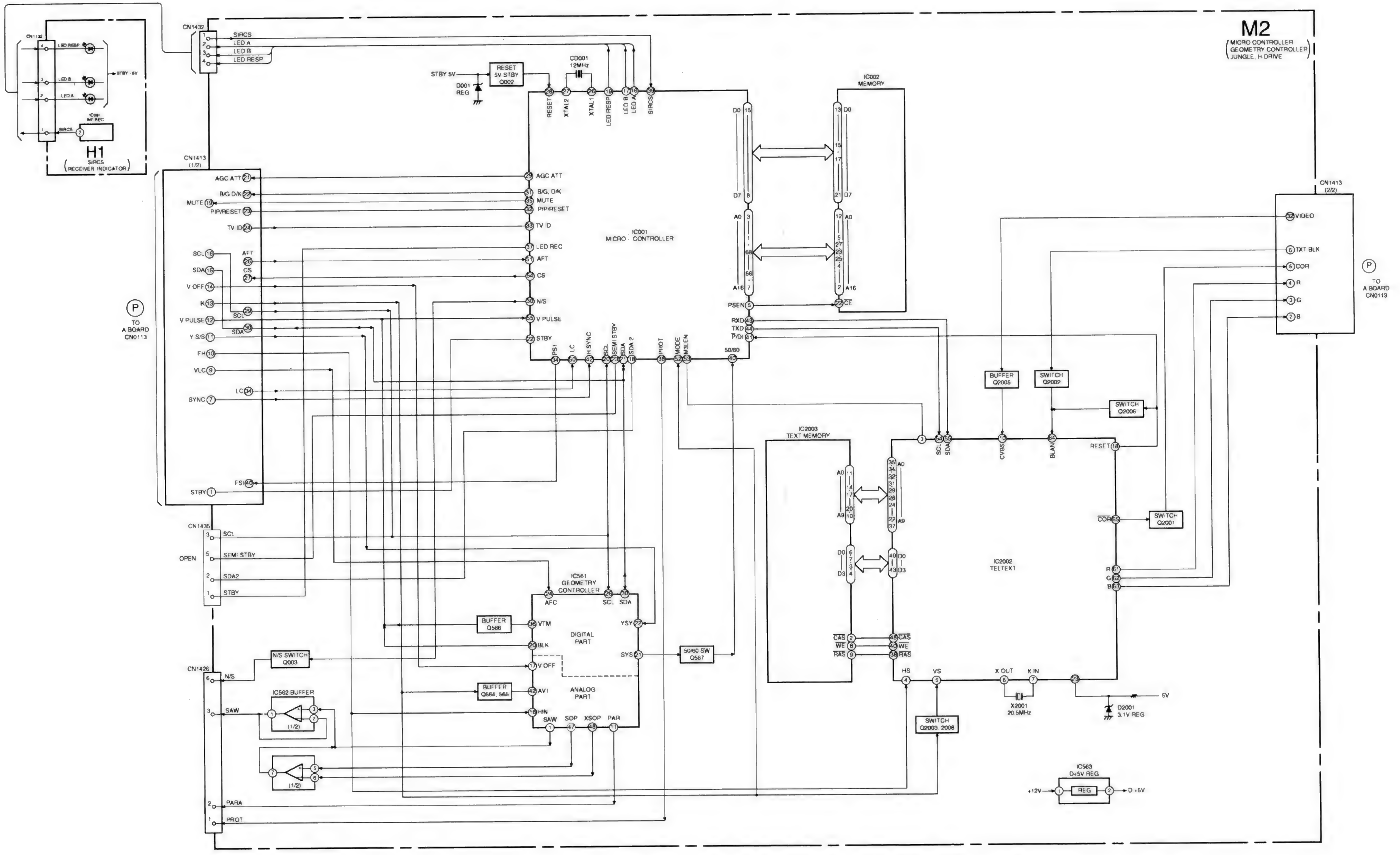
1. Input the color-bar signal.
2. Connect a digital multimeter to emitter of Q612.
3. Adjust RV603 so that voltage is – 125 ± 0.1 V.

SECTION 5
DIAGRAMS

5-1. BLOCK DIAGRAMS (1)

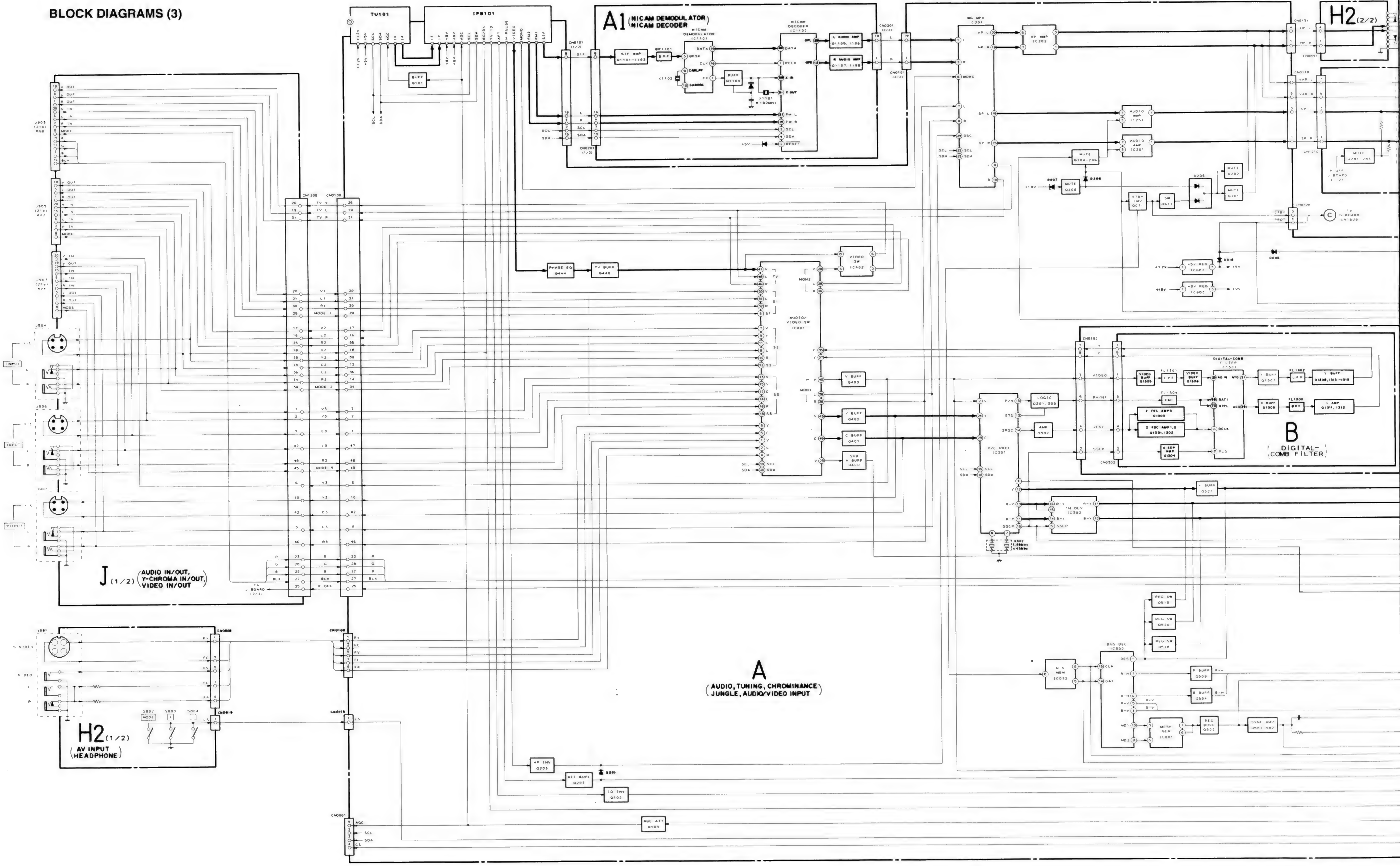

G (POWER SUPPLY)
IC602 REG OPTO COUPL
+18V
IC603 OPTO COUPLER
IC601 POWER SUPPL.CONTROL
VIN
SENSE
SOFT
VP IN
VP DET
OUT
VSS
RV601
+B
T601 SRT
RECT D613
+225V
RECT D603
+115V
T603 STAND BY TRANS.
D656-659 RECT
REG REF Q620,D660
D650,653-655 RECT
REGULATOR IC605
STBY 5V (TO A BOARD)
REG OUT Q601,D608
DETECTOR Q611,612,D620
-130V RECT D604
-130V
STAND-BY
CN1628(2/2)
STAND BY SW Q618,621
FROM A BOARD CN0128
-12V RECT D610
+12V
+7.7V RECT D612
+7.7V
+18V RECT D621
+18V
-18V RECT D622
-18V
RY601
CN1628 (1/2)
PROT
FROM A BOARD CN0128
STAND BY SW Q623,D636
CN1654
FROM N BOARD N-5
RELAY DRIVE Q629
H3 (AC SWITCH)
S095 POWER
CN1858
AC IN
LF1801
LF1802
CN1859
AC
CN0959
CN0960
CN1860
D1801 RECT
LF1803
LFT
D606 RECT
T604
RECT D615,619
REG REF Q614,D617
H+
H-
CN1652
TO CB BOARD CB-4
T602
-22V RECT D614
-22V
+22V RECT D611
+22V

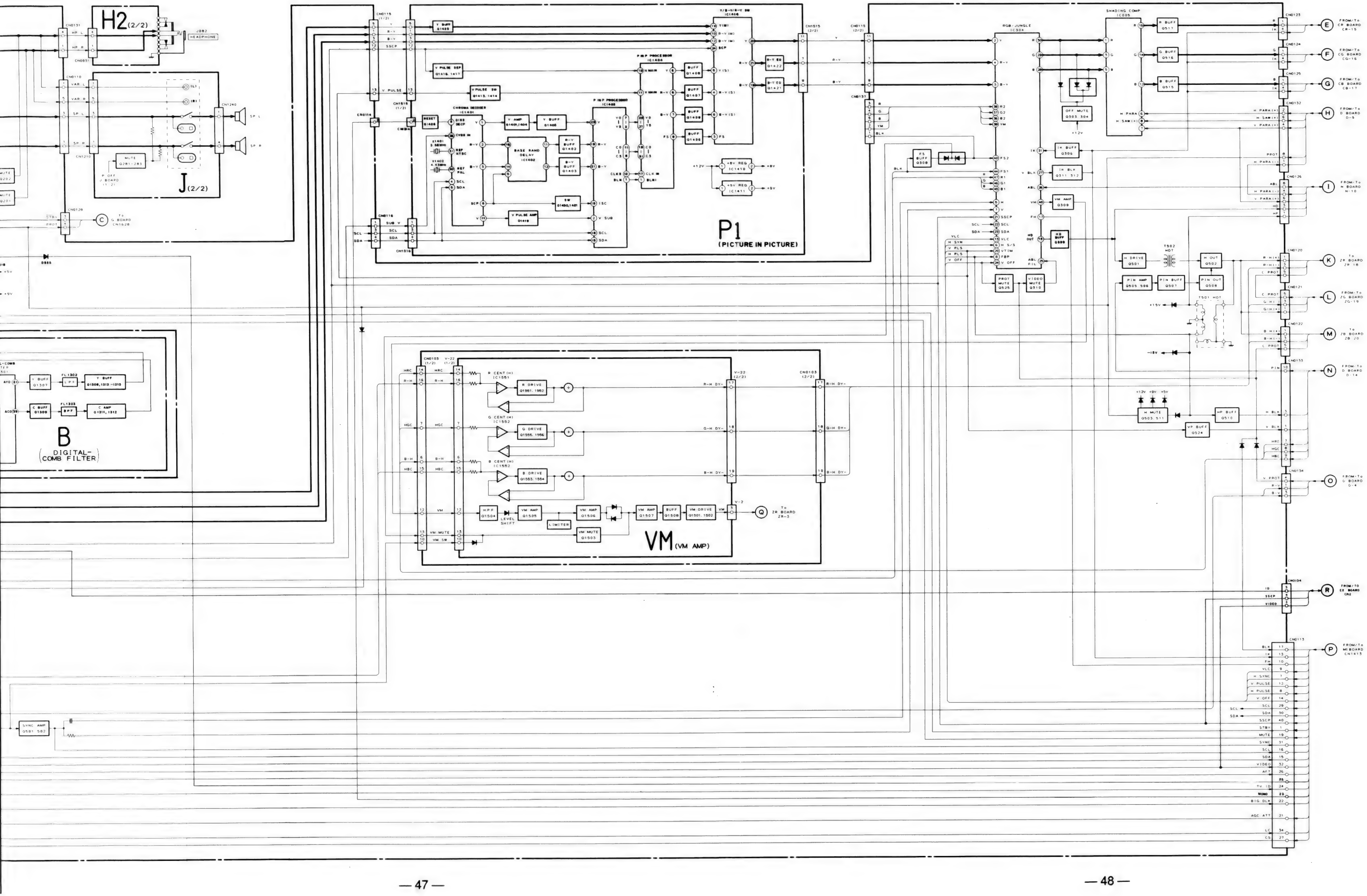
BLOCK DIAGRAMS (2)



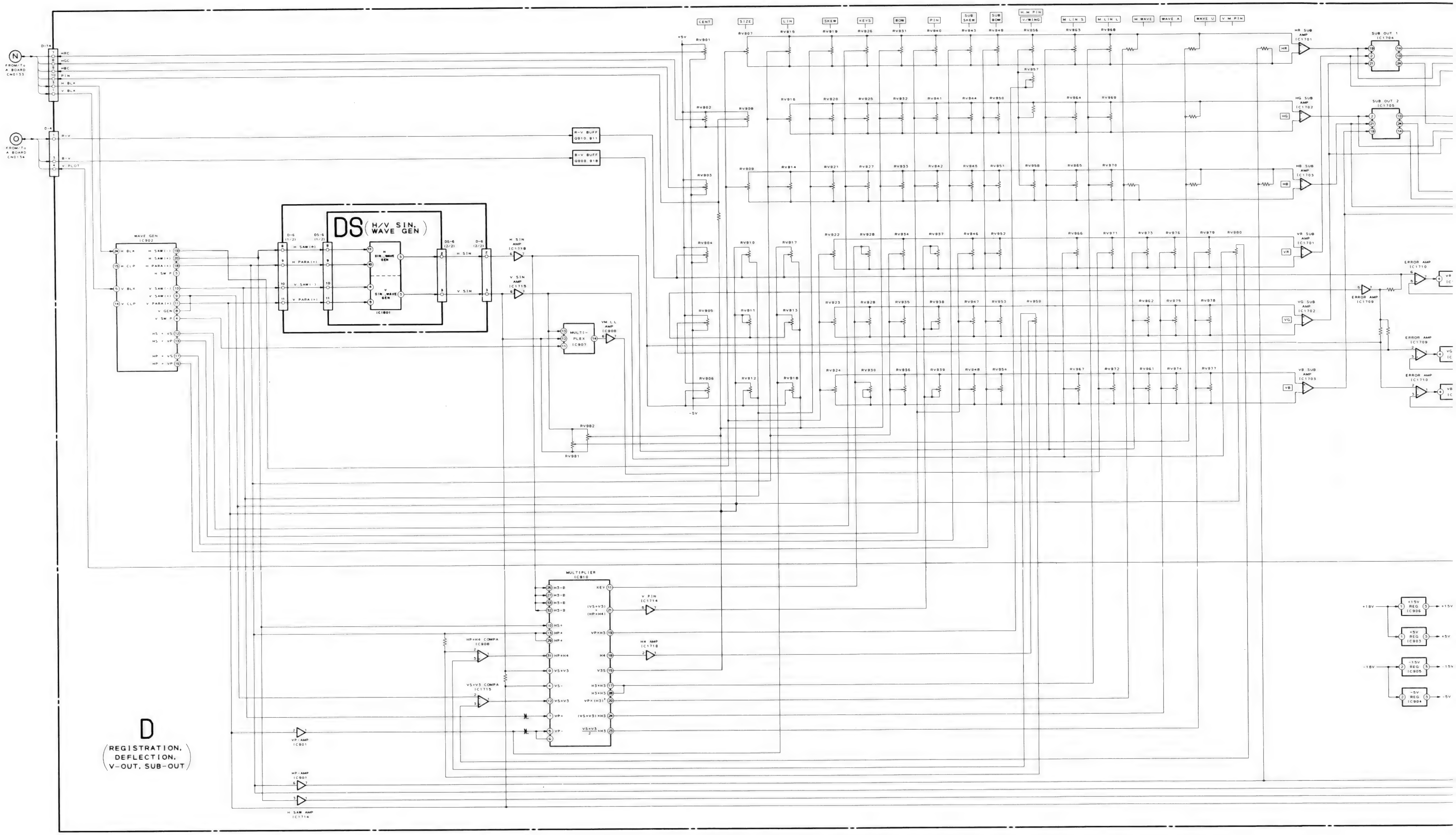
M2
MICRO CONTROLLER
GEOMETRY CONTROLLER
JUNGLE, H DRIVE
H1
SIRCS
RECEIVER INDICATOR
CN1132
LED RESP
LED B
LED A
STBY 5V
IC001 INF.REC
SIRCS
CN1432
SIRCS
LED A
LED B
LED RESP
STBY 5V
RESET
5V STBY
Q002
D001
REG
CD001
12MHz
RESET
XTAL2
XTAL1
LED RESP
LED B
LED A
SIRCS
IC002
MEMORY
D0
D7
A0
A16
PSEN
CE
IC001
MICRO · CONTROLLER
AGC ATT
B/G, D/K
MUTE
PIP/RESET
TV ID
LED REC
AFT
CS
N/S
V PULSE
STBY
PS1
LC
H SYNC
SCL
SEMI STBY
SDA
SDA 2
PROT
MODE
M3LEN
50/60
RXD
TXD
P/DI
CN1413
(1/2)
AGC ATT
B/G D/K
MUTE
PIP/RESET
TV ID
SCL
SDA
AFT
CS
V OFF
IK
V PULSE
Y S/S
FH
VLC
LC
SYNC
FSI
STBY
P
TO
A BOARD
CN0113
CN1435
OPEN
SCL
SEMI STBY
SDA2
STBY
IC561
GEOMETRY
CONTROLLER
AFC
SCL
SDA
VTM
BLK
V OFF
AV1
HIN
YSY
SYS
DIGITAL
PART
ANALOG
PART
SAW
SOP
XSOP
PAR
BUFFER
Q566
BUFFER
Q564, 565
N/S SWITCH
Q003
50/60 SW
Q567
CN1426
N/S
SAW
PARA
PROT
IC562 BUFFER
(1/2)
(1/2)
IC2003
TEXT MEMORY
A0
A9
D0
D3
CAS
WE
RAS
IC2002
TELTEXT
SCL
SDA
CVBS
BLANK
RESET
COR
R
G
B
HS
VS
X OUT
X IN
X2001
20.5MHz
D2001
3.1V REG
5V
SWITCH
Q2003, 2008
BUFFER
Q2005
SWITCH
Q2002
SWITCH
Q2006
SWITCH
Q2001
CN1413
(2/2)
VIDEO
TXT BLK
COR
R
G
B
IC563
D+5V REG
+12V
REG
D +5V

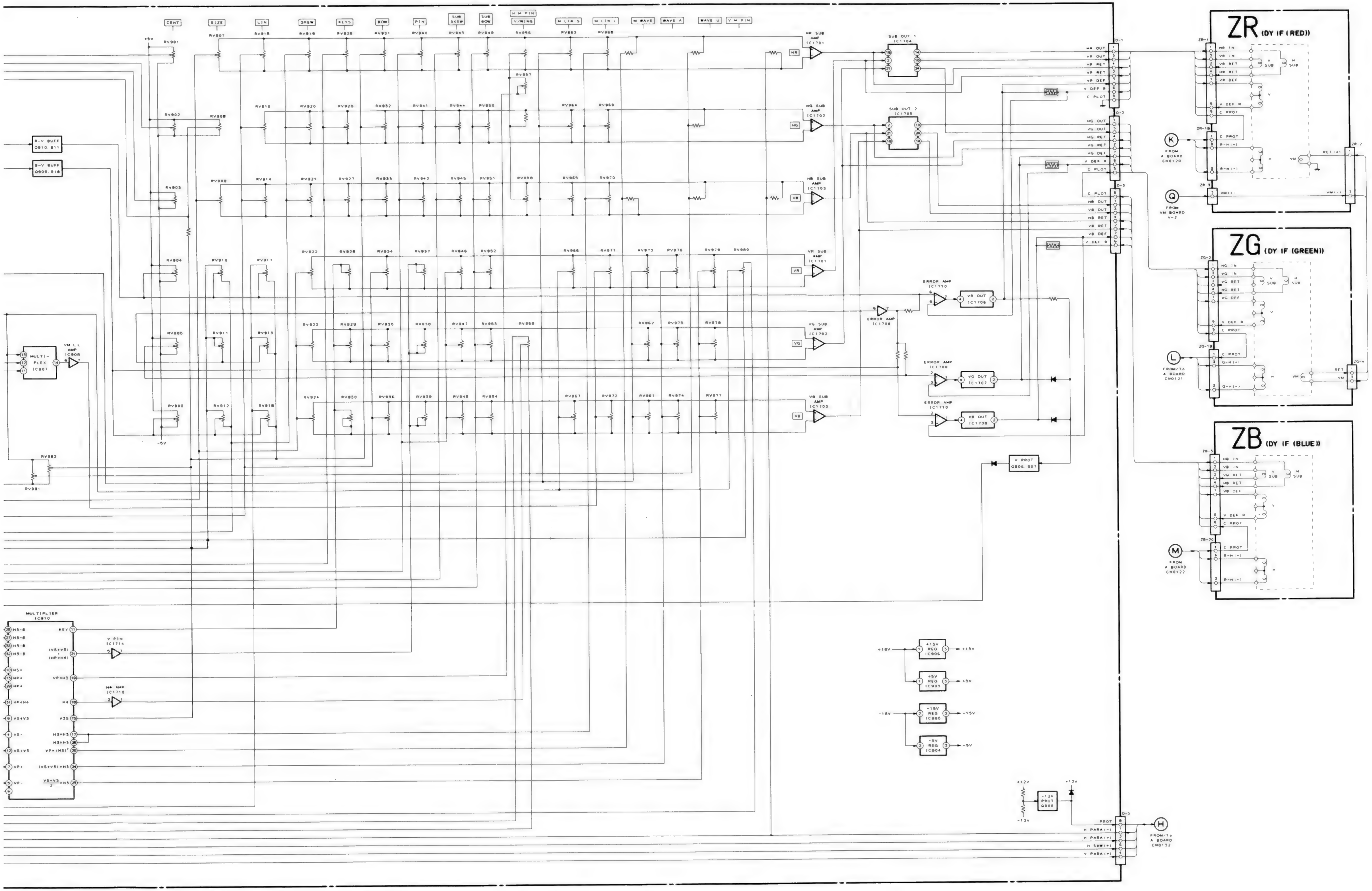
BLOCK DIAGRAMS (3)


TU101
IFB101
A1 (NICAM DEMODULATOR / NICAM DECODER)
NICAM DEMODULATOR IC1101
NICAM DECODER IC1102
SIF AMP Q1101-1103
BPF
L AUDIO AMP Q1105, 1106
R AUDIO AMP Q1107, 1108
BUFF Q1104
BUFF Q101
H2 (2/2)
WG MPX IC201
HP AMP IC202
AUDIO AMP IC251
AUDIO AMP IC261
MUTE Q204-206
MUTE Q209
MUTE Q202
MUTE Q201
MUTE Q281-283
STBY INV Q071
SW Q611
+5V REG IC682
+9V REG IC683
J903
J905
J907
J904
J906
J901
CN1209
CN0109
PHASE EQ Q444
TV BUFF Q445
VIDEO SW IC402
AUDIO/VIDEO SW IC401
V BUFF Q403
Y BUFF Q402
C BUFF Q401
SUB V BUFF Q400
Y/C PROC IC301
LOGIC Q501, 505
AMP Q502
1H DLY IC502
Y BUFF Q521
B DIGITAL-COMB FILTER
DIGITAL-COMB FILTER IC1301
VIDEO BUFF Q1305
VIDEO BUFF Q1306
Y BUFF Q1307
Y BUFF Q1308, 1313-1315
C BUFF Q1309
C AMP Q1311, 1312
2 FSC AMP3 Q1303
2 FSC AMP1,2 Q1301, 1302
S SEP AMP Q1304
J (1/2) (AUDIO IN/OUT, Y-CHROMA IN/OUT, VIDEO IN/OUT)
H2 (1/2) (AV INPUT HEADPHONE)
J001
S802 S803 S804
A (AUDIO, TUNING, CHROMINANCE JUNGLE, AUDIO/VIDEO INPUT)
REG SW Q519
REG SW Q520
REG SW Q518
BUS DEC IC502
R-V MEM IC072
R BUFF Q508
B BUFF Q504
MESH GEN IC001
REG BUFF Q522
SYNC AMP Q581, 582
HP INV Q203
AFT BUFF Q207
ID INV Q102
AGC ATT Q103
CN0001

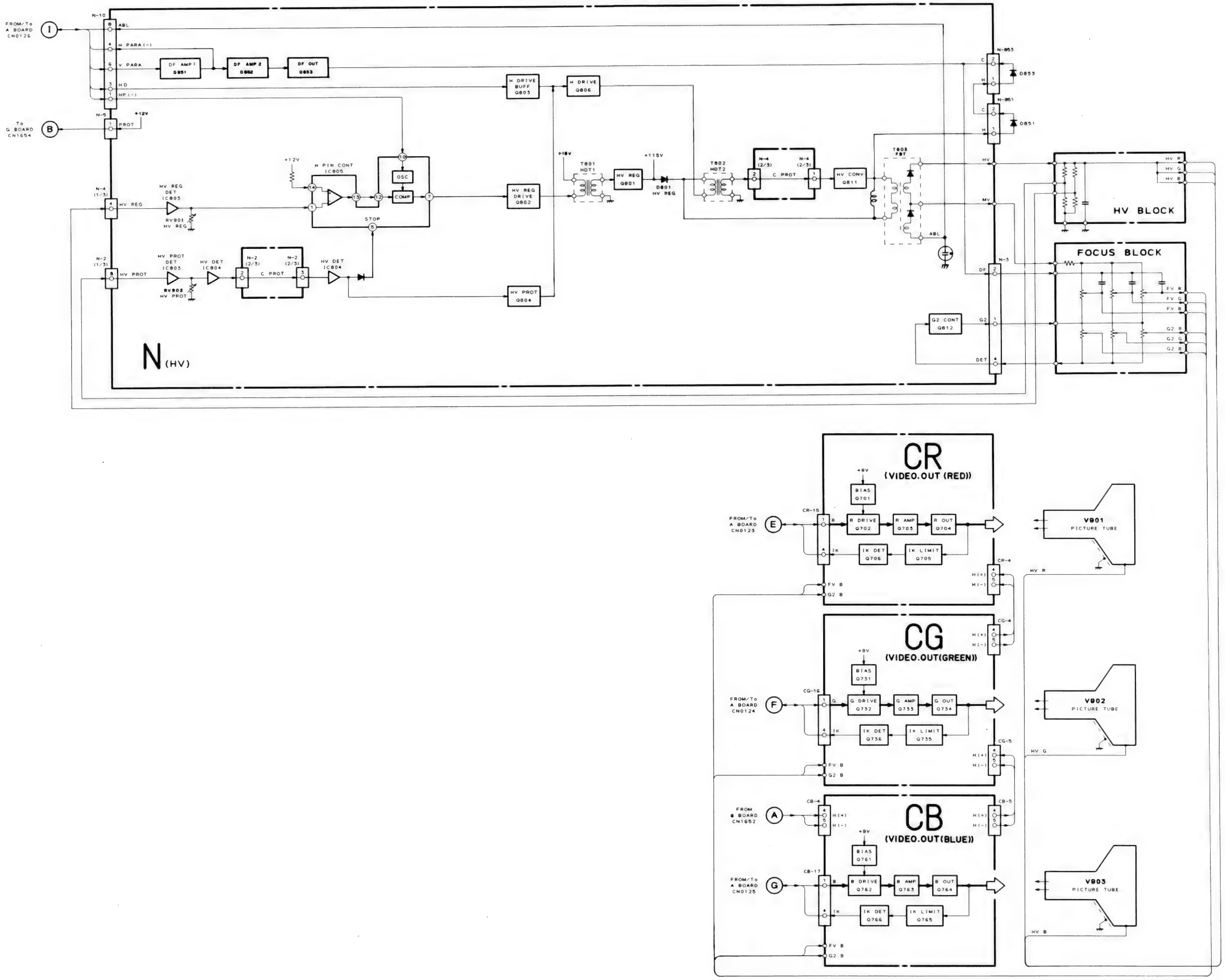


H2 (2/2)
J802 HEADPHONE
HP L
HP R
VAR L
VAR R
SP L
SP R
MUTE Q281-283
J (2/2)
CN1240
To G BOARD CN1628
B
DIGITAL-COMB FILTER
Y BUFF Q1307
FL1302 LPF
Y BUFF Q1308, 1313-1315
C BUFF Q1309
FL1303 BPF
C AMP Q1311, 1312
P1
(PICTURE IN PICTURE)
Y/B-Y/R-Y SW IC1406
Y BUFF Q1425
V PULSE SEP Q1416, 1417
V PULSE SW Q1413, 1414
CHROMA DECODER IC1401
RESET Q1428
Y AMP Q1401, 1404
Y BUFF Q1405
BASE BAND DELAY IC1402
R-Y BUFF Q1402
B-Y BUFF Q1403
SW Q1420, 1421
V PULSE AMP Q1418
P IN P PROCESSOR IC1404
P IN P PROCESSOR IC1403
BUFF Q1408
BUFF Q1407
BUFF Q1409
BUFF Q1406
R-Y EQ Q1422
B-Y EQ Q1421
+5V REG IC1410
+5V REG IC1411
SCL
SDA
RGB/JUNGLE IC304
SHADING COMP IC005
R BUFF Q517
G BUFF Q516
B BUFF Q515
OFF MUTE Q303, 304
FS BUFF Q308
IK BUFF Q306
IK BLK Q311, 312
VM AMP Q309
HD BUFF Q899
PROT MUTE Q525
VIDEO MUTE Q310
H DRIVE Q501
T502 HOT
H OUT Q502
P IN AMP Q505, 506
P IN BUFF Q507
P IN OUT Q508
T501 HOT
H MUTE Q503, 511
HP BUFF Q510
VP BUFF Q524
FROM/To CR BOARD CR-15
FROM/To CG BOARD CG-16
FROM/To CB BOARD CB-17
FROM/To D BOARD D-9
FROM/To M BOARD M-10
To ZR BOARD ZR-18
FROM/To ZG BOARD ZG-19
To ZB BOARD ZB-20
FROM/To D BOARD D-14
FROM/To D BOARD D-4
FROM/To E2 BOARD CN2
FROM/To M1 BOARD CN1415
VM (VM AMP)
R CENT (H) IC1551
R DRIVE Q1561, 1562
G CENT (H) IC1552
G DRIVE Q1555, 1556
B CENT (H) IC1553
B DRIVE Q1553, 1554
HPF Q1504
LEVEL SHIFT
VM AMP Q1505
LIMITER
VM AMP Q1506
VM MUTE Q1503
VM AMP Q1507
BUFF Q1508
VM DRIVE Q1501, 1502
To ZR BOARD ZR-3
SYNC AMP Q581, 582
BLK
IK
FH
VLC
H SYNC
V PULSE
H PULSE
V OFF
SSCP
STBY
MUTE
SYNC
VIDEO
AFT
TV ID
MONO
BIG DLK
AGC ATT
LC
CS

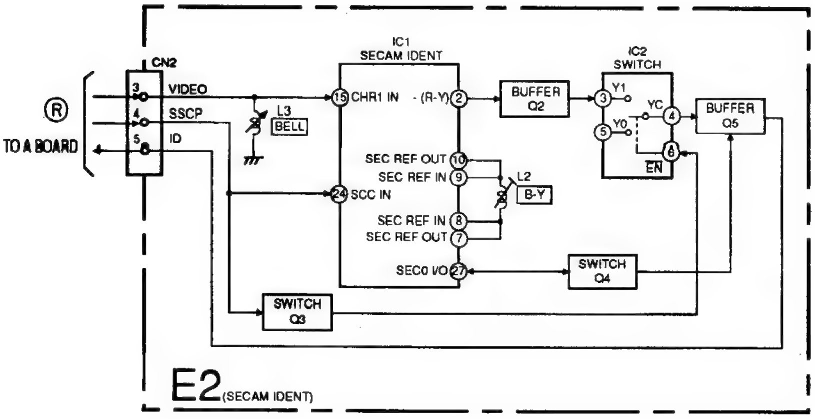

N
FROM/TO A BOARD CN0133
D-14
HRC
HGC
HBC
PIN
H BLK
V BLK
O
FROM/TO A BOARD CN0134
D-4
R-V
B-V
V PLOT
WAVE GEN IC902
H SAW(-)
H SAW(+)
H PARA(+)
H SW P
V SAW(-)
V SAW(+)
V PARA(+)
V GEN
V SW P
HS × VS
HS × VP
HP × VS
HP × VP
H CLP
V CLP
DS (H/V SIN, WAVE GEN)
D-6 (1/2)
DS-6 (1/2)
DS-6 (2/2)
D-6 (2/2)
H SIN, WAVE GEN
V SIN, WAVE GEN
IC1801
H SIN
V SIN
H SIN AMP IC1718
V SIN AMP IC1715
R-V BUFF Q910, 911
B-V BUFF Q908, 918
MULTI-PLEX IC907
VM LL AMP IC908
RV982
RV981
CENT
SIZE
LIN
SKEW
KEYS
BOW
PIN
SUB SKEW
SUB BOW
H M PIN
V/WING
M LIN S
M LIN L
M WAVE
WAVE A
WAVE U
V M PIN
+5V
-5V
RV901
RV902
RV903
RV904
RV905
RV906
RV907
RV908
RV909
RV910
RV911
RV912
RV913
RV914
RV915
RV916
RV917
RV918
RV919
RV920
RV921
RV922
RV923
RV924
RV925
RV926
RV927
RV928
RV929
RV930
RV931
RV932
RV933
RV934
RV935
RV936
RV937
RV938
RV939
RV940
RV941
RV942
RV943
RV944
RV945
RV946
RV947
RV948
RV949
RV950
RV951
RV952
RV953
RV954
RV956
RV957
RV958
RV959
RV961
RV962
RV963
RV964
RV965
RV966
RV967
RV968
RV969
RV970
RV971
RV972
RV973
RV974
RV975
RV976
RV977
RV978
RV979
RV980
HR SUB AMP IC1701
HG SUB AMP IC1702
HB SUB AMP IC1703
VR SUB AMP IC1701
VG SUB AMP IC1702
VB SUB AMP IC1703
HR
HG
HB
VR
VG
VB
SUB OUT 1 IC1704
SUB OUT 2 IC1705
ERROR AMP IC1710
ERROR AMP IC1709
ERROR AMP IC1709
ERROR AMP IC1710
MULTIPLIER IC910
HS-B
HS+
HP+
HP+H4
VS+VS
VS-
VP+
VP-
KEY
(VS+VS) × (HP+H4)
VP×HS
H4
VSS
HS×HS
VP×(HS)²
(VS+VS)×HS
(VS+VS)/2 ×HS
V PIN IC1714
H4 AMP IC1718
HP+H4 COMPA IC906
VS+VS COMPA IC1715
VP-AMP IC901
HP-AMP IC901
H SAW AMP IC1714
+18V
+15V REG IC906
+15V
+5V REG IC903
+5V
-18V
-15V REG IC905
-15V
-5V REG IC904
-5V
D
(REGISTRATION, DEFLECTION, V-OUT, SUB-OUT)


CENT
SIZE
LIN
SKEW
KEYS
BOW
PIN
SUB SKEW
SUB BOW
H M PIN
V/WING
M LIN S
M LIN L
M WAVE
WAVE A
WAVE U
V M PIN
+5V
-5V
RV901
RV907
RV915
RV919
RV926
RV931
RV940
RV945
RV949
RV956
RV957
RV963
RV968
R-V BUFF Q910, 911
B-V BUFF Q909, 916
MULTI-PLEX IC907
VM LL AMP IC906
RV981
RV982
HR SUB AMP IC1701
HG SUB AMP IC1702
HB SUB AMP IC1703
VR SUB AMP IC1701
VG SUB AMP IC1702
VB SUB AMP IC1703
SUB OUT 1 IC1704
SUB OUT 2 IC1705
ERROR AMP IC1710
ERROR AMP IC1708
ERROR AMP IC1709
VR OUT IC1706
VG OUT IC1707
VB OUT IC1708
V PROT Q806, 807
MULTIPLIER IC810
KEY
V PIN IC1714
H4 AMP IC1718
+15V REG IC906
+5V REG IC903
-15V REG IC905
-5V REG IC904
+18V
-18V
+15V
-15V
-12V PROT Q808
+12V
-12V
D-1
D-2
D-3
D-5
HR OUT
VR OUT
HR RET
VR RET
VR DEF
V DEF R
C PLOT
HG OUT
VG OUT
HG RET
VG RET
VG DEF
HB OUT
VB OUT
HB RET
VB RET
VB DEF
PROT
H PARA (-)
H PARA (+)
H SAW (+)
V PARA (+)
FROM/To A BOARD CN0132
ZR (DY IF (RED))
ZG (DY IF (GREEN))
ZB (DY IF (BLUE))
ZR-1
ZR-1B
ZR-3
ZR-2
ZG-2
ZG-1B
ZG-4
ZB-3
ZB-2B
HR IN
VR IN
HG IN
VG IN
HB IN
VB IN
V SUB
H SUB
C PROT
R-H (+)
R-H (-)
G-H (+)
G-H (-)
B-H (+)
B-H (-)
VM
VM (+)
RET (+)
RET
FROM A BOARD CN0120
FROM VM BOARD V-2
FROM/To A BOARD CN0121
FROM A BOARD CN0122

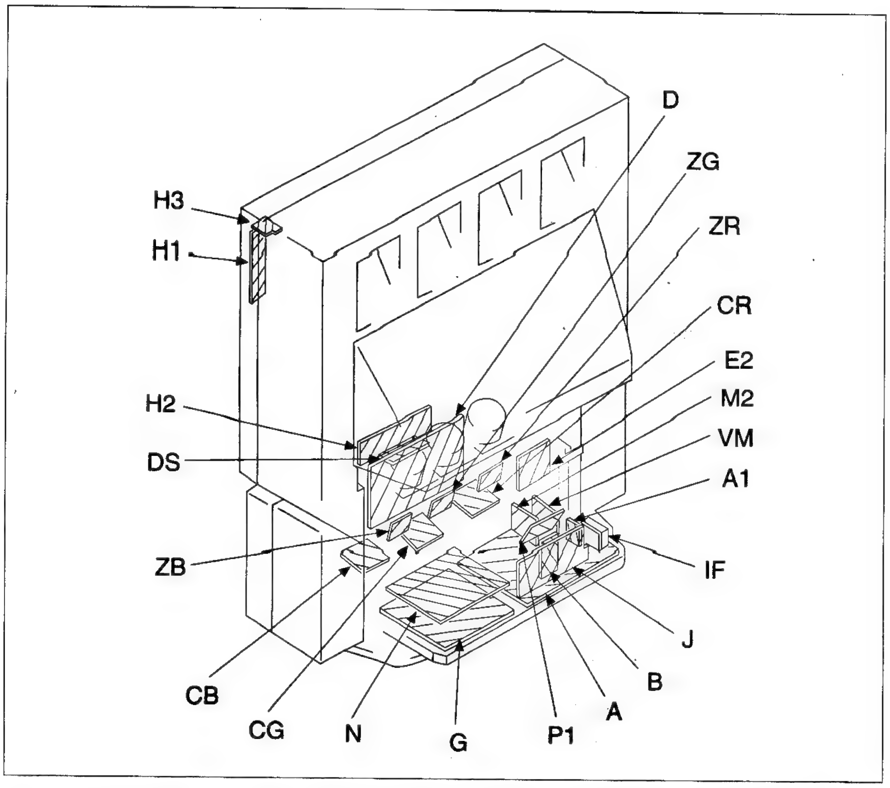
BLOCK DIAGRAMS (5)


FROM/To A BOARD CN0126
I
N-10
ABL
H PARA (-)
V PARA
HD
HP (-)
DF AMP 1 Q851
DF AMP 2 Q852
DF OUT Q853
H DRIVE BUFF Q805
H DRIVE Q806
To G BOARD CN1654
B
N-5
PROT
+12V
N-4 (1/3)
HV REG
HV REG DET IC803
RV901 HV REG
H PIN CONT IC805
OSC
COMP
STOP
HV REG DRIVE Q802
N-2 (1/3)
HV PROT
HV PROT DET IC803
RV902 HV PROT
HV DET IC804
N-2 (2/3)
C PROT
HV PROT Q804
+18V
T801 HDT1
HV REG Q801
+115V
D801 HV REG
T802 HDT2
N-4 (2/3)
HV CONV Q811
T803 FBT
ABL
N-853
D853
N-851
D851
C
H
HV
MV
DF
G2
DET
G2 CONT Q812
N (HV)
HV BLOCK
HV R
HV G
HV B
FOCUS BLOCK
FV R
FV G
FV B
G2 R
G2 G
G2 B
CR
(VIDEO.OUT (RED))
+9V
BIAS Q701
FROM/To A BOARD CN0123
E
CR-15
R
R DRIVE Q702
R AMP Q703
R OUT Q704
IK
IK DET Q706
IK LIMIT Q705
CR-4
H (+)
H (-)
FV B
G2 B
V901 PICTURE TUBE
HV R
CG
(VIDEO.OUT(GREEN))
CG-4
BIAS Q731
FROM/To A BOARD CN0124
F
CG-16
G
G DRIVE Q732
G AMP Q733
G OUT Q734
IK DET Q736
IK LIMIT Q735
CG-5
V902 PICTURE TUBE
HV G
CB
(VIDEO.OUT(BLUE))
FROM B BOARD CN1652
A
CB-4
CB-5
BIAS Q761
FROM/To A BOARD CN0125
G
CB-17
B
B DRIVE Q762
B AMP Q763
B OUT Q764
IK DET Q766
IK LIMIT Q765
V903 PICTURE TUBE
HV B

BLOCK DIAGRAMS (6)


Ⓡ
TO A BOARD
CN2
3
4
5
VIDEO
SSCP
ID
L3
BELL
IC1
SECAM IDENT
15 CHR1 IN
- (R-Y) 2
SEC REF OUT 10
SEC REF IN 9
24 SCC IN
SEC REF IN 8
SEC REF OUT 7
SEC0 I/O 27
L2
B-Y
BUFFER
Q2
IC2
SWITCH
3 Y1
5 Y0
YC 4
6
EN
BUFFER
Q5
SWITCH
Q4
SWITCH
Q3
E2 (SECAM IDENT)

5-2. CIRCUIT BOARD LOCATION



5-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

Note :

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytic and tantalums.
- All resistors are in ohms.
  k = 1000 , M = 1000K
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch : 5 mm
Rating electrical power ¼ W

- -▭- : nonflammable resistor.
- △ : internal component.
- ▭ : panel designation, or adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ⊥ : earth - ground.
- ⫻ : earth - chassis.
- # : no mounted.

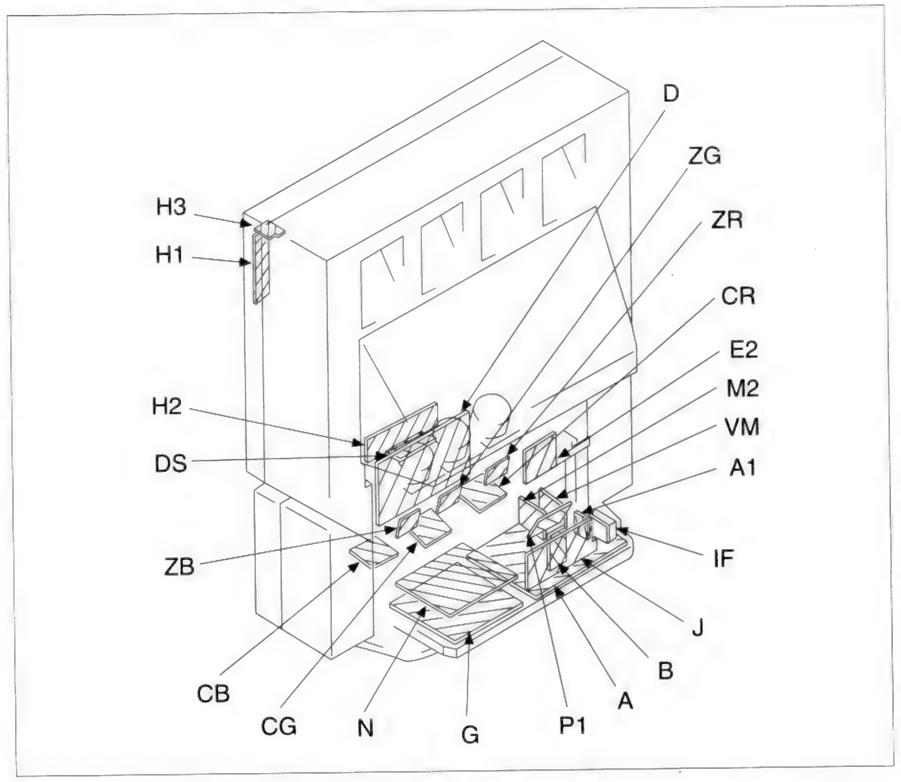
Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with part number specified.

Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: RW	NONFLAMMABLE WIREWOUND
	: ※	ADJUSTABLE RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

- Readings are taken with a colour-bar signal input.
- Readings are taken with 10M digital multimeter.
- Voltages are dc with respect to ground unless otherwise noted.
- Voltage variations may be noted due to normal production tolerances.
- All voltages are in V.
- Circled numbers are waveform references.
- ▬ : B+ bus.
- ⇨ : signal path. (RF)

5-2. CIRCUIT BOARD LOCATION


D
ZG
ZR
CR
E2
M2
VM
A1
IF
J
B
A
P1
G
N
CG
CB
ZB
DS
H2
H3
H1

5-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

Note :

- All capacitors are in µF unless otherwise noted. pF: µµF 50WV or less are not indicated except for electrolytic and tantalums.
- All resistors are in ohms.
  k = 1000 , M = 1000K
- Indication of resistance, which does not have one for rating electrical power, is as follows.

  Pitch : 5 mm
  Rating electrical power ¼ W

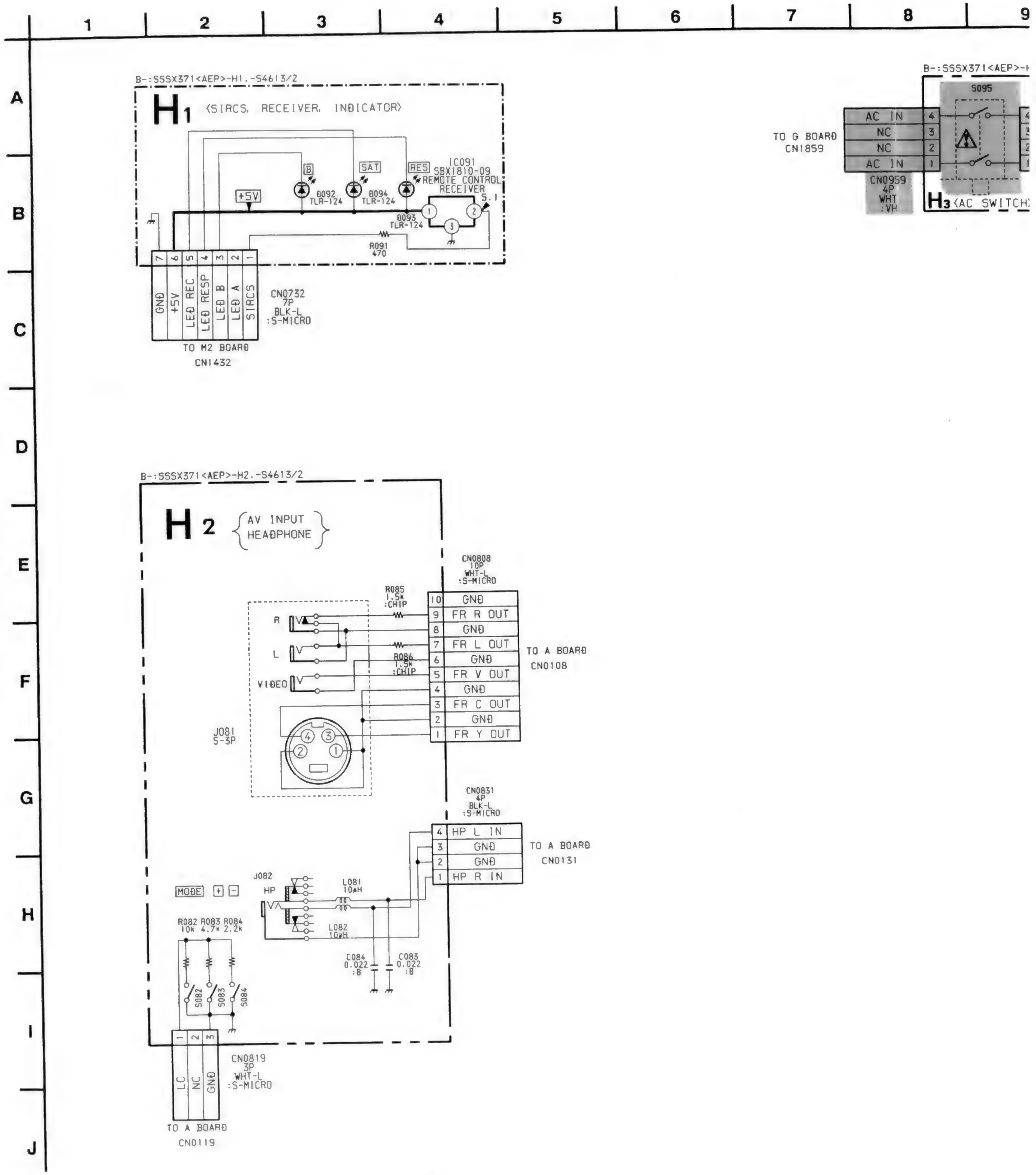
- ▭ : nonflammable resistor.
- △ : internal component.
- ▭ : panel designation, or adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ⊥ : earth - ground.
- ⏊ : earth - chassis.
- # : no mounted.

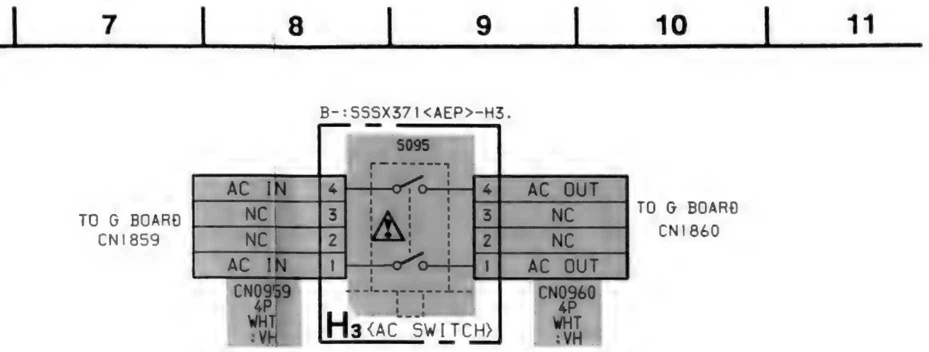
Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with part number specified.

Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: RW	NONFLAMMABLE WIREWOUND
	: ✕	ADJUSTABLE RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

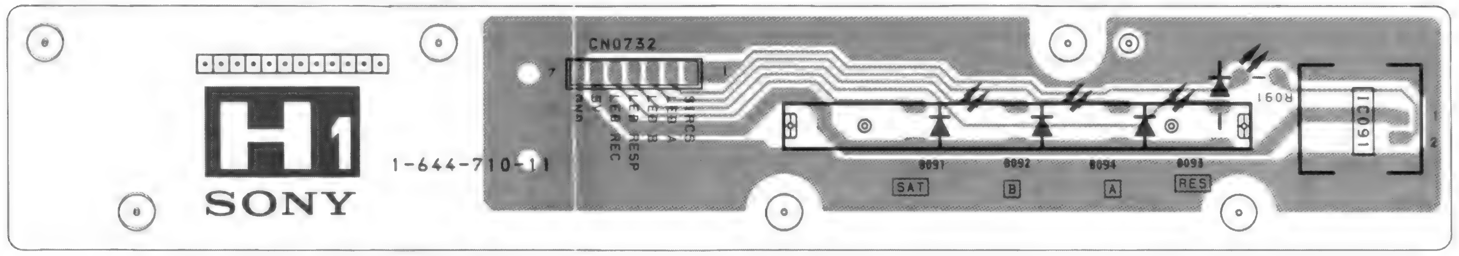
- Readings are taken with a colour-bar signal input.
- Readings are taken with 10M digital multimeter.
- Voltages are dc with respect to ground unless otherwise noted.
- Voltage variations may be noted due to normal production tolerances.
- All voltages are in V.
- Circled numbers are waveform references.
- ━━ : B+ bus.
- ── : signal path. (RF)


1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
G
H
I
J
B-:SSSX371<AEP>-H1.-S4613/2
H1 <SIRCS, RECEIVER, INDICATOR>
B
SAT
RES
IC091
SBX1810-09
REMOTE CONTROL
RECEIVER
5.1
+5V
D092
TLR-124
D094
TLR-124
D093
TLR-124
R091
470
7 GND
6 +5V
5 LED REC
4 LED RESP
3 LED B
2 LED A
1 SIRCS
CN0732
7P
BLK-L
:S-MICRO
TO M2 BOARD
CN1432
B-:SSSX371<AEP>-H
TO G BOARD
CN1859
AC IN 4
NC 3
NC 2
AC IN 1
CN0959
4P
WHT
:VH
S095
H3 <AC SWITCH>
B-:SSSX371<AEP>-H2.-S4613/2
H2 AV INPUT HEADPHONE
R
L
VIDEO
J081
S-3P
R085
1.5k
:CHIP
R086
1.5k
:CHIP
CN0808
10P
WHT-L
:S-MICRO
10 GND
9 FR R OUT
8 GND
7 FR L OUT
6 GND
5 FR V OUT
4 GND
3 FR C OUT
2 GND
1 FR Y OUT
TO A BOARD
CN0108
CN0831
4P
BLK-L
:S-MICRO
4 HP L IN
3 GND
2 GND
1 HP R IN
TO A BOARD
CN0131
MODE + −
J082
HP
L081
10µH
L082
10µH
R082 10k
R083 4.7k
R084 2.2k
S082
S083
S084
C084
0.022
:B
C083
0.022
:B
1 LC
2 NC
3 GND
CN0819
3P
WHT-L
:S-MICRO
TO A BOARD
CN0119

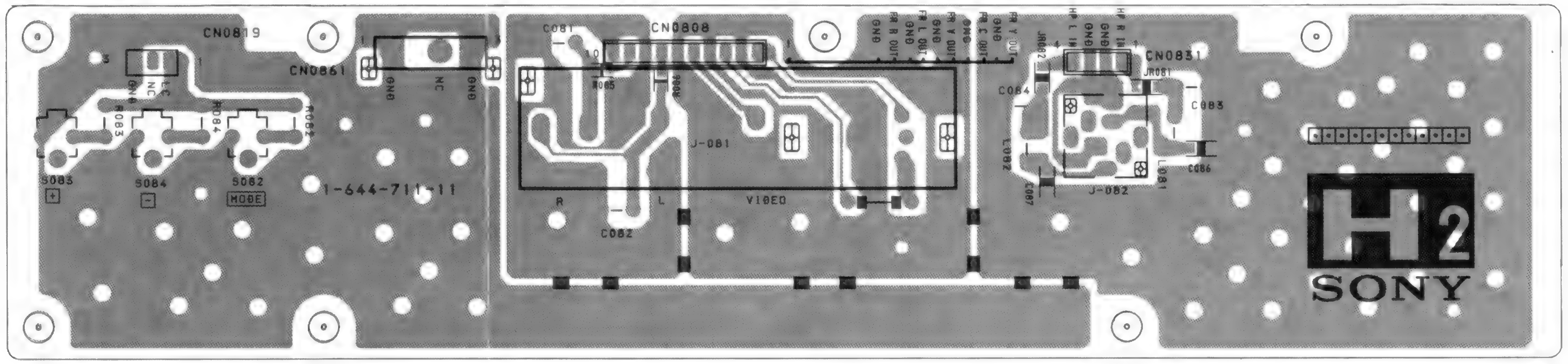

7
8
9
10
11
B-:SSSX371<AEP>-H3.
S095
TO G BOARD
CN1859
AC IN
NC
NC
AC IN
4
3
2
1
CN0959
4P
WHT
:VH
H3 <AC SWITCH>
AC OUT
NC
NC
AC OUT
CN0960
4P
WHT
:VH
TO G BOARD
CN1860

H1 [SIRCS, RECEIVER, INDICATOR] **H2** [AV INPUT HEADPHONE] **H3** [AC SWITCH]

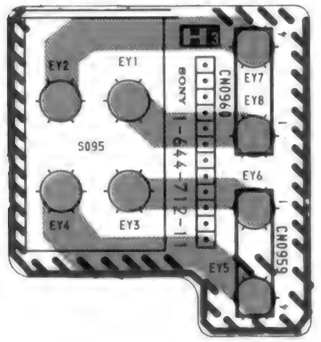
— H1 BOARD —

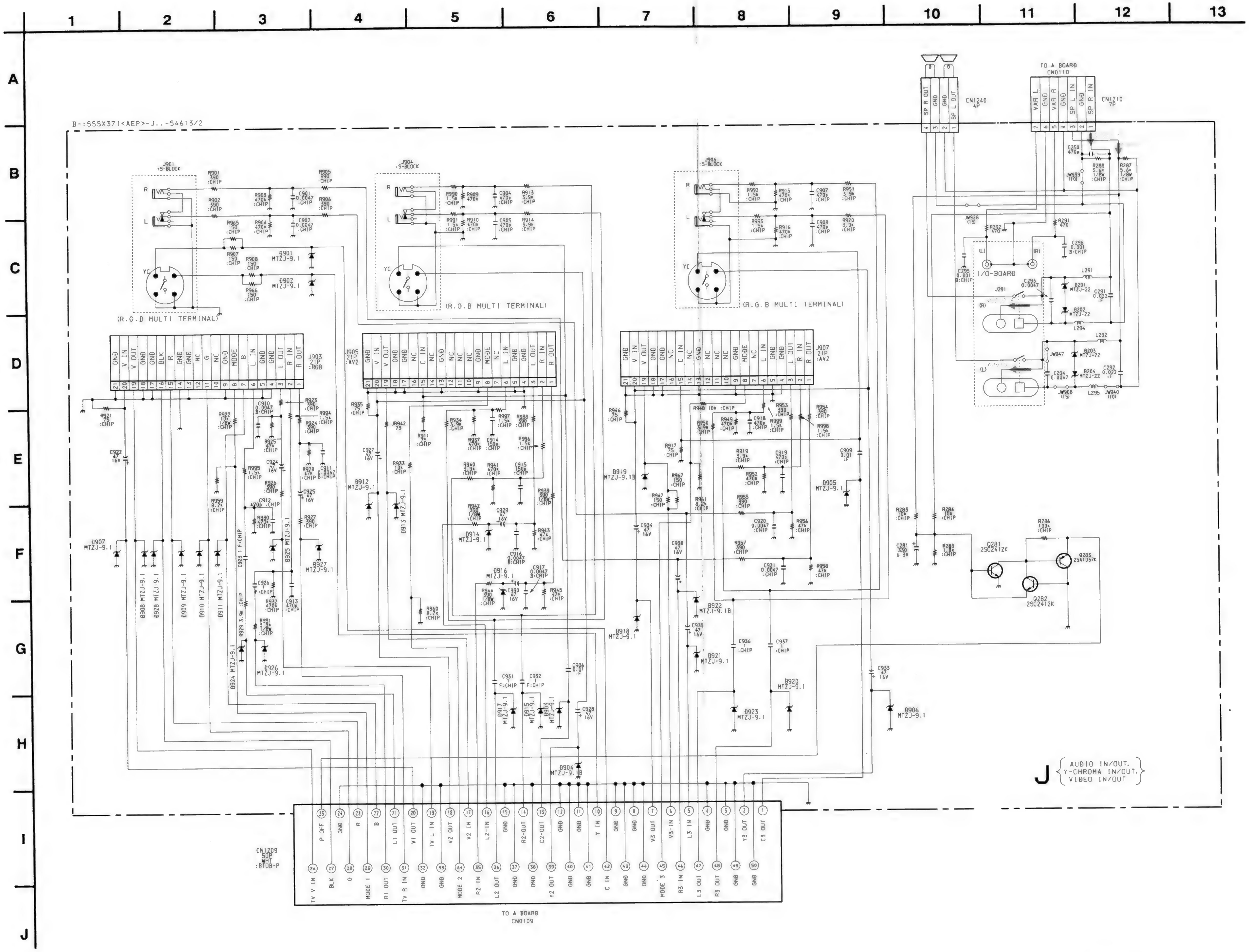

H1
SONY
1-644-710-11
CN0732
7
1
GND
5V
LED REC
LED RESP
LED B
LED A
SIRCS
D091
D092
D094
D093
SAT
B
A
RES
R091
IC091
1
2

— H2 BOARD —


CN0819
3
1
GND
NC
EC
R083
R084
R082
S083
+
S084
−
S082
MODE
CN0861
GND
NC
GND
1-644-711-11
C081
CN0808
10
1
R085
R086
J-081
R
L
VIDEO
C082
GND
FR R OUT
GND
FR L OUT
GND
FR Y OUT
GND
FR C OUT
GND
FR Y OUT
HP L IN
GND
GND
HP R IN
JR082
CN0831
JR081
C084
C083
L082
C087
C086
L081
J-082
H2
SONY

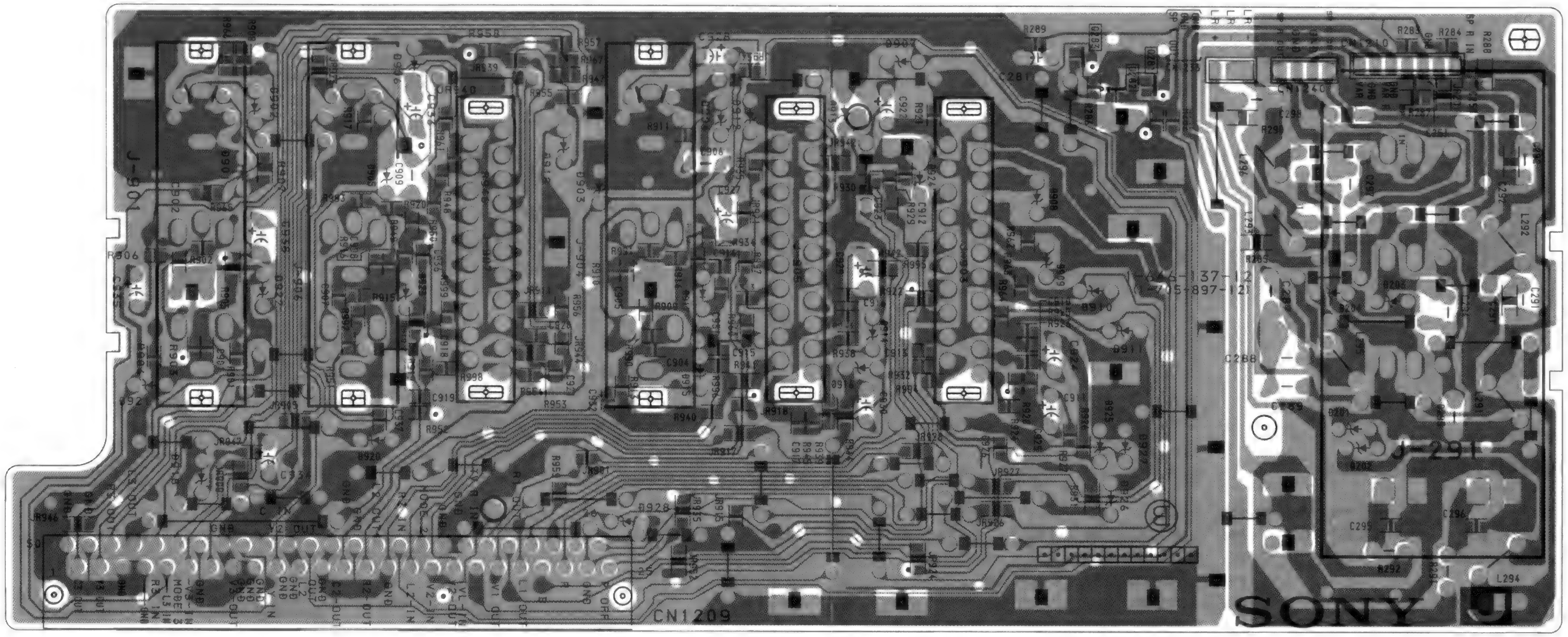
— H3 BOARD —


H3
EY2
EY1
S095
EY4
EY3
SONY 1-644-712-11
CN0960
EY7
EY8
EY6
EY5
CN0959

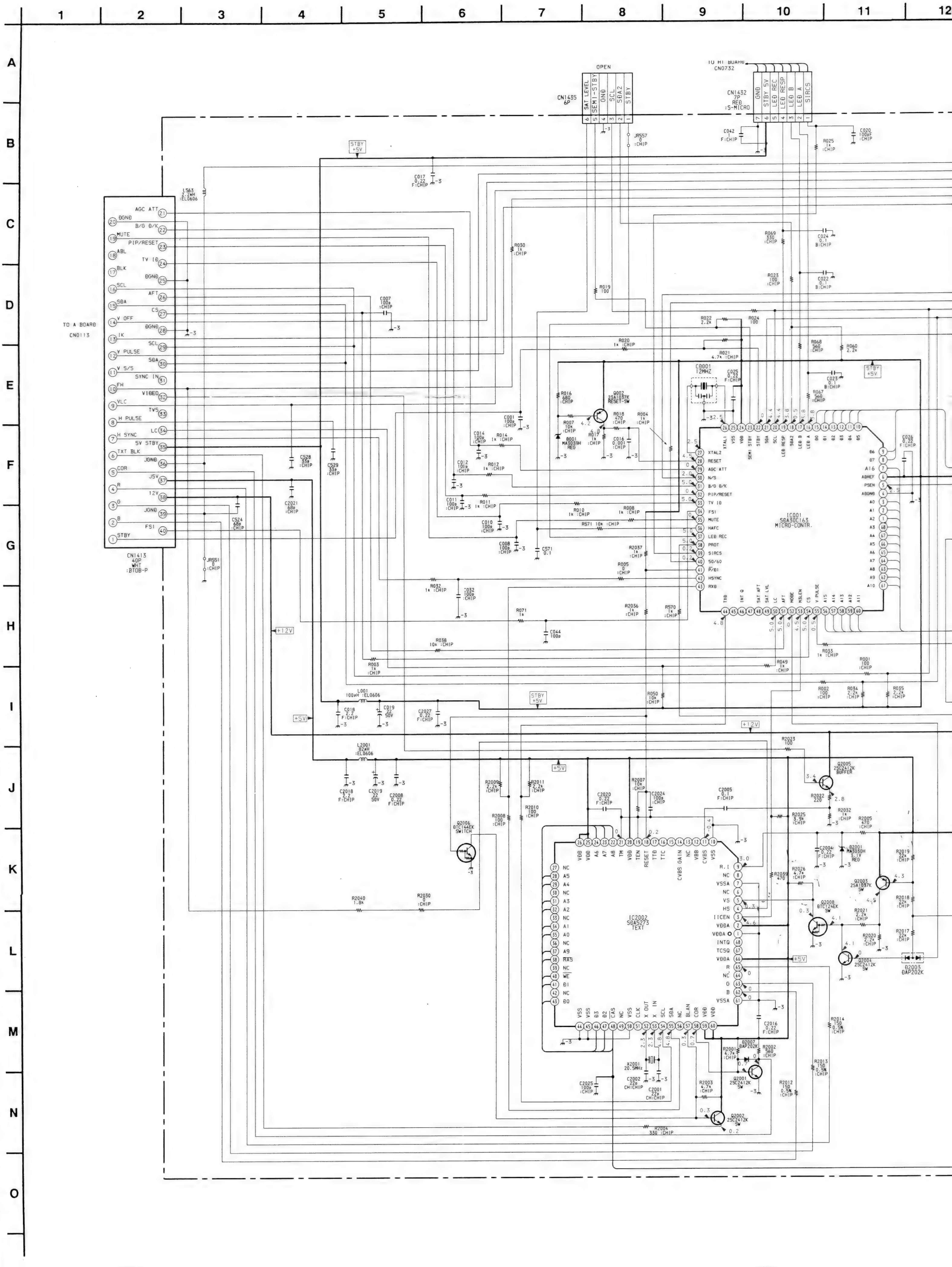

B-:SSSX371<AEP>-J..-S4613/2
J901 :S-BLOCK
J904 :S-BLOCK
J906 :S-BLOCK
(R.G.B MULTI TERMINAL)
J903 21P :RGB
J905 21P :AV2
J907 21P :AV2
CN1240 4P
SP R OUT
GND
GND
SP L OUT
TO A BOARD CN0110
CN1210 7P
VAR L
GND
VAR R
GND
SP L IN
GND
SP R IN
I/O-BOARD
Q281 2SC2412K
Q282 2SC2412K
Q283 2SA1037K
CN1209 50P WHT :BTOB-P
P OFF
GND
R
B
L1 OUT
V1 OUT
TV L IN
V2 OUT
V2 IN
L2-IN
GND
R2-OUT
C2-OUT
GND
GND
Y IN
GND
GND
V3 OUT
V3-IN
L3 IN
GND
GND
Y3 OUT
C3 OUT
TV V IN
BLK
G
MODE 1
R1 OUT
TV R IN
GND
GND
MODE 2
R2 IN
L2 OUT
GND
GND
Y2 OUT
GND
GND
C IN
GND
GND
MODE 3
R3 IN
L3 OUT
R3 OUT
GND
GND
TO A BOARD CN0109
J
AUDIO IN/OUT,
Y-CHROMA IN/OUT,
VIDEO IN/OUT

J [AUDIO IN/OUT, Y-CHROMA IN/OUT
VIDEO IN/OUT]

— J BOARD —


CN1209
J-291
SONY J

- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.


1
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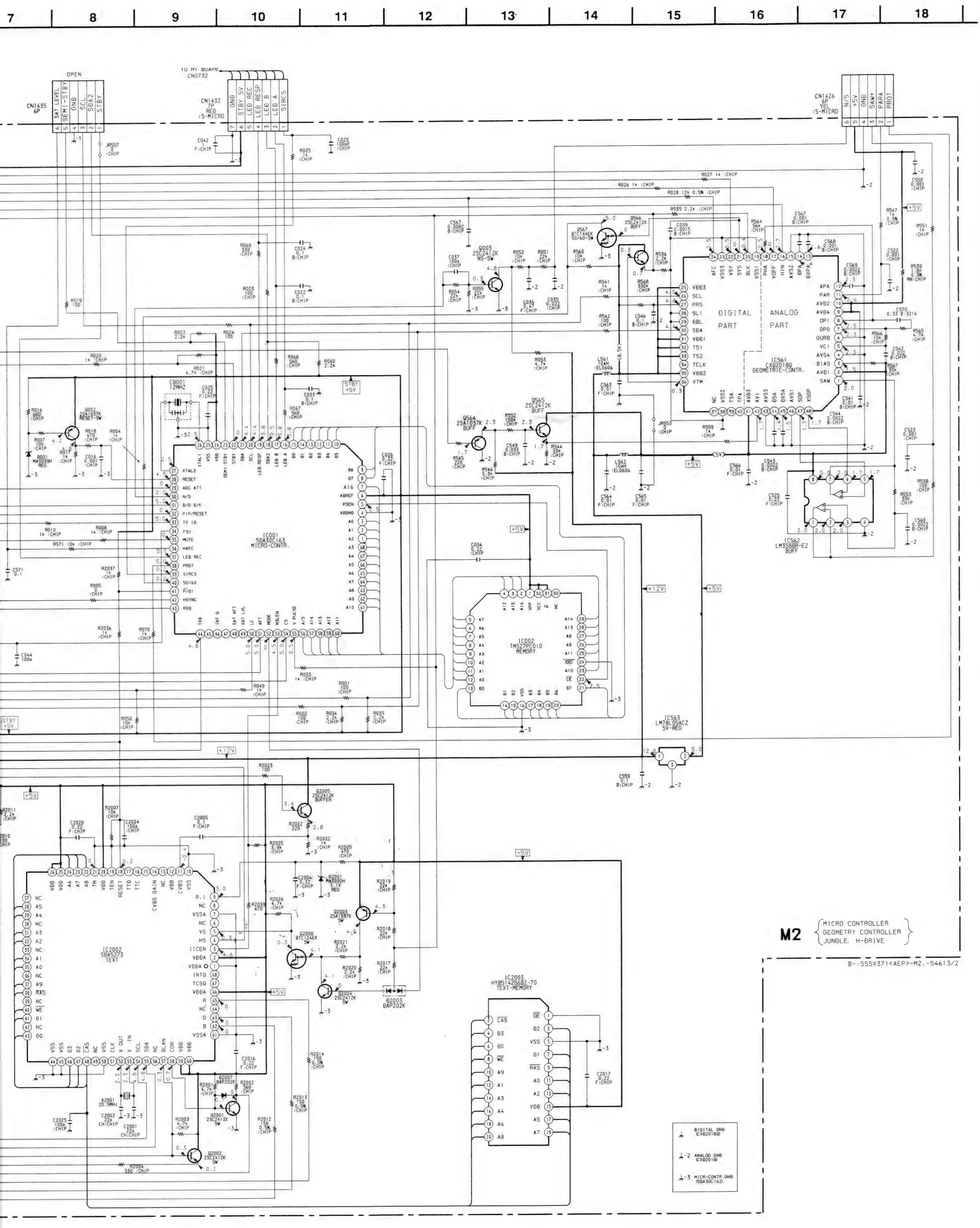
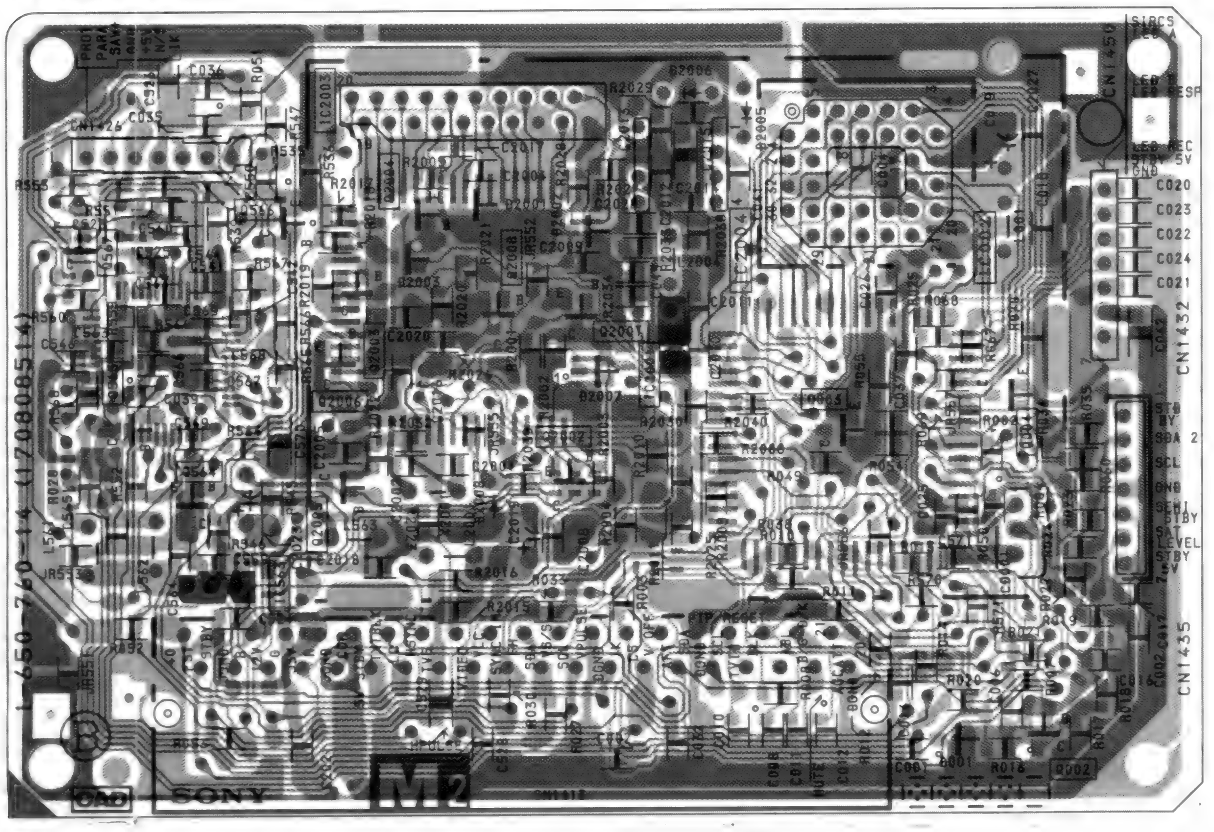
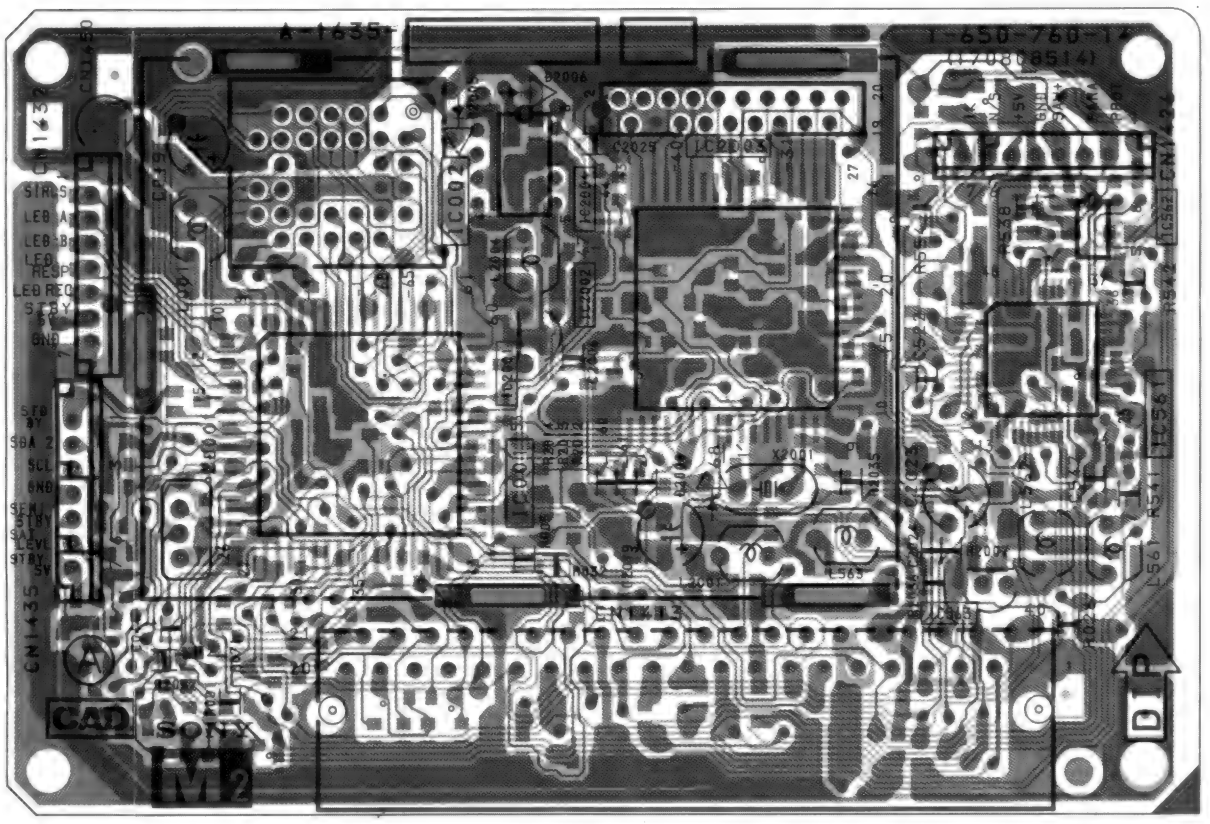
11
12
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
TO A BOARD CN0113
CN1413 40P WHT :BTOB-P
AGC ATT
DGND
B/G D/K
MUTE
PIP/RESET
ABL
TV ID
BLK
DGND
SCL
AFT
SDA
CS
V OFF
DGND
IK
SCL
V PULSE
SDA
V S/S
SYNC IN
FH
VIDEO
VLC
TVS
H PULSE
LC
H SYNC
5V STBY
TXT BLK
JGND
COR
J5V
R
12V
G
JGND
B
FS1
STBY
L563 2.2μH :EL0606
OPEN
CN1435 6P
SAT LEVEL
SEMI-STBY
GND
SCL
SDA2
STBY
JR557 0 :CHIP
TO HI BOARD CN0732
CN1432 7P RED :S-MICRO
GND
STBY 5V
LED REC
LED RESP
LED B
LED A
SIRCS
C042 1 F:CHIP
C020 100pF :CHIP
R025 1k :CHIP
STBY +5V
C017 0.22 F:CHIP
R030 1k :CHIP
R069 330 :CHIP
C024 0.1 B:CHIP
R023 100 :CHIP
C022 0.1 B:CHIP
R019 100
C007 100p :CHIP
R022 2.2k
R024 100
R020 1k :CHIP
R021 4.7k :CHIP
R068 560 :CHIP
R060 2.2k
CD001 12MHz
C025 0.22 F:CHIP
C023 0.1 B:CHIP
R067 560 :CHIP
R016 680 :CHIP
Q002 2SA1037K RESET-SW
R007 10k :CHIP
D001 MA3039H RED
R018 470 :CHIP
R017 1k :CHIP
C016 0.001 :CHIP
R004 1k :CHIP
C001 100p :CHIP
C014 100p :CHIP
R014 1k :CHIP
C012 100p :CHIP
R012 1k :CHIP
C011 100p :CHIP
R011 1k :CHIP
C528 33p :CHIP
C529 33p :CHIP
C2021 68p :CHIP
C524 68p :CHIP
R010 1k :CHIP
R008 1k :CHIP
R571 10k :CHIP
C010 100p :CHIP
C008 100p :CHIP
C571 0.1
R2037 1k :CHIP
R005 0 :CHIP
JR551 0 :CHIP
IC001 SDA30C163 MICRO-CONTR.
XTAL2
RESET
AGC ATT
N/S
B/G D/K
PIP/RESET
TV ID
FS1
MUTE
HAFC
LED REC
PROT
SIRCS
50/60
P/D1
HSYNC
RXD
XTAL1
VSS
VDD
SEMI STBY
STBY
SDA
SCL
LED RESP
SDA2
LED B
LED A
D0
D1
D2
D3
D4
D5
D6
D7
A16
ABREF
PSEN
ABGND
A0
A1
A2
A3
A4
A5
A6
A7
A8
A9
A10
TXD
INT Q
SAT AFT
SAT LVL
LC
AFT
MODE
MSLEN
CS
V PULSE
A15
A14
A13
A12
A11
C026 0.22 F:CHIP
R032 1k :CHIP
C032 100p :CHIP
R071 1k
C044 100p
R2036 1k :CHIP
R570 1k :CHIP
+12V
R038 10k :CHIP
R003 1k :CHIP
R049 1k :CHIP
R033 1k :CHIP
R001 100 :CHIP
R002 100 :CHIP
R034 2.2k :CHIP
R035 2.2k :CHIP
L001 100μH :EL0606
C018 2.2 F:CHIP
C019 22 50V
C2027 0.22 F:CHIP
R050 1k :CHIP
+5V
L2001 82μH :EL0606
C2018 2.2 F:CHIP
C2019 22 50V
C2008 0.22 F:CHIP
R2023 100
Q2005 2SC2412K BUFFER
R2022 220
R2009 2.2k :CHIP
R2011 2.2k :CHIP
R2007 10k :CHIP
C2024 100p :CHIP
C2020 0.22 F:CHIP
C2005 0.1 F:CHIP
R2025 3.9k :CHIP
R2032 1k :CHIP
R2005 470 :CHIP
R2008 100 :CHIP
R2010 100 :CHIP
Q2006 DTC144EK SWITCH
C2004 0.22 F:CHIP
D2001 MA3030H 3.1V RED
R2019 22k :CHIP
R2026 4.7k :CHIP
R2039 470
Q2003 2SA1037K SW
Q2008 DTC124EK SW
R2021 2.2k :CHIP
R2018 22k :CHIP
R2020 2.2k :CHIP
R2017 22k :CHIP
Q2004 2SC2412K SW
D2003 DAP202K
IC2002 SDA5273 TEXT
VDD
A6
A7
A8
TM
VDD
TEN
RESET
TTD
TTC
CVBS GAIN
NC
VBB
CVBS
VSS
R.I
VSSA
VS
HS
IICEN
VDDA
INTQ
TCSQ
R
G
B
A5
A4
A3
A2
A1
A0
A9
RAS
WE
D1
D0
D3
D2
CAS
CLK
X OUT
X IN
BLAN
COR
R2040 1.8k
R2030 0 :CHIP
C2016 0.22 F:CHIP
R2014 150 0.5W :CHIP
R2001 4.7k :CHIP
D2007 DAP202K
R2002 560 :CHIP
Q2001 2SC2412K SW
R2013 150 0.5W :CHIP
X2001 20.5MHz
C2025 100p :CHIP
C2002 22p CH:CHIP
C2001 22p CH:CHIP
R2003 4.7k :CHIP
R2012 150 0.5W :CHIP
Q2002 2SC2412K SW
R2004 330 :CHIP


7
8
9
10
11
12
13
14
15
16
17
18
CN1435 6P
OPEN
SAT LEVEL
SEMI-STBY
GND
SCL
SDA2
STBY
TO HT BOARD CN0732
CN1432 7P RED :S-MICRO
GND
STBY 5V
LED REC
LED RESP
LED B
LED A
SIRCS
CN1426 6P YEL :S-MICRO
N/S
+5V
GND
SAW+
PARA
PROT
Q002 2SA1037K RESET-SW
D001 MA3059H REG
X001 12MHZ
IC001 SDA30C163 MICRO-CONTR.
IC002 TMS27PC010 MEMORY
Q003 2SC2412K NS-SW
Q567 DTC144EK 50/60-SW
Q566 2SC2412K BUFF
Q564 2SA1037K BUFF
Q565 2SC2412K BUFF
DIGITAL PART
ANALOG PART
IC561 CXD2018Q GEOMETRIE-CONTR.
IC562 LM358BR-E2 BUFF
IC563 LM78L05ACZ 5V-REG
L561 10uH :EL0606
L562 10uH :EL0606
STBY +5V
+5V
+12V
5V
IC2002 SDA5273 TEXT
X2001 20.5MHz
Q2005 2SC2412K BUFFER
D2001 MA3030H 3.1V REG
Q2003 2SA1037K SW
Q2008 DTC124EK SW
Q2004 2SC2412K SW
D2003 DAP202K
D2007 DAP202K
Q2001 2SC2412K SW
Q2002 2SC2412K SW
IC2003 HYB514256BZ-70 TEXT-MEMORY
DIGITAL GND (CXD2018Q)
-2 ANALOG GND (CXD2018)
-3 MICR-CONTR.GND (SDA30C162)
M2
MICRO CONTROLLER
GEOMETRY CONTROLLER
JUNGLE, H-DRIVE
B-:SSSX371<AEP>-M2.-S4613/2

M2 MICRO-CONTROLLER, GEOMETRY CONTROLLER JUNGLE, H-DRIVE

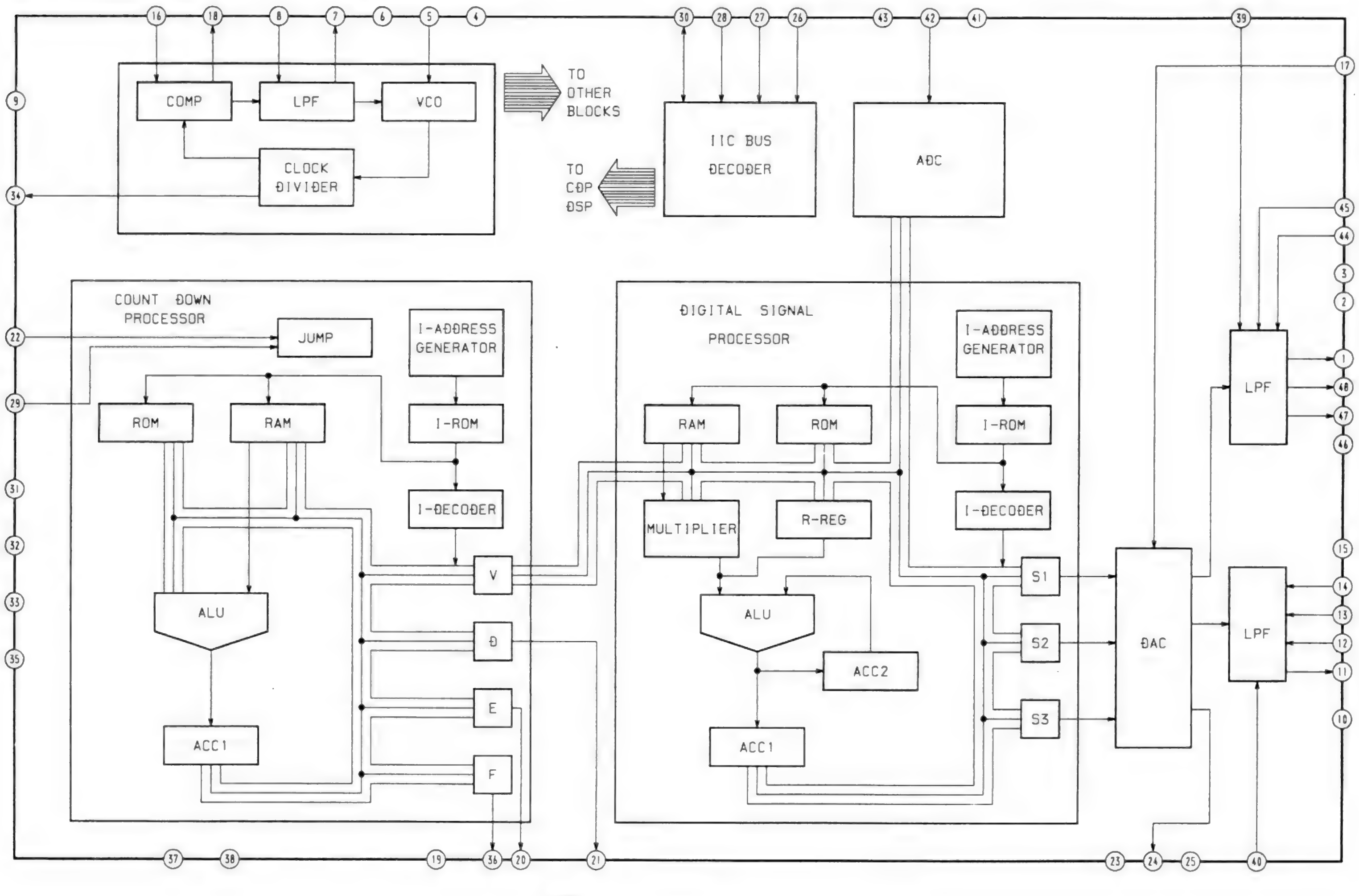
— M2 BOARD —

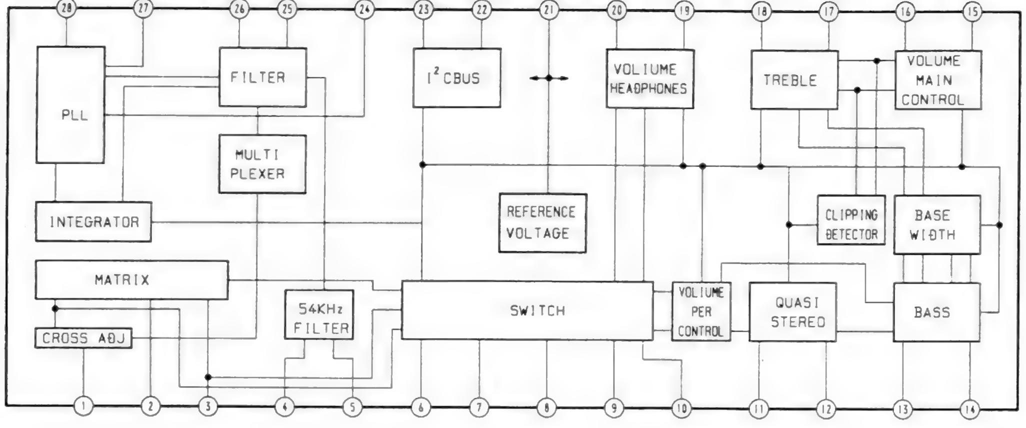


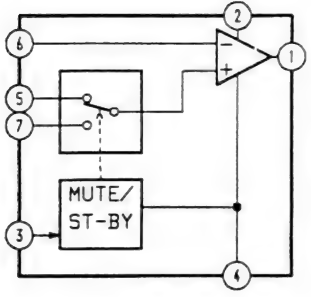


- ▨ : Pattern from the side which enables seeing.
- ■ : Pattern of the rear side.

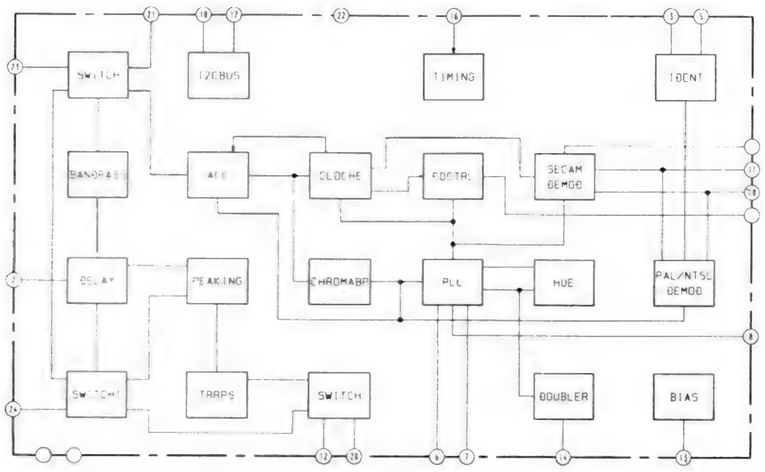
M2 BOARD IC561 CXD2018Q


COMP
LPF
VCO
CLOCK DIVIDER
TO OTHER BLOCKS
TO CDP DSP
IIC BUS DECODER
ADC
COUNT DOWN PROCESSOR
JUMP
I-ADDRESS GENERATOR
ROM
RAM
I-ROM
I-DECODER
ALU
ACC1
V
D
E
F
DIGITAL SIGNAL PROCESSOR
I-ADDRESS GENERATOR
RAM
ROM
I-ROM
MULTIPLIER
R-REG
I-DECODER
ALU
ACC2
ACC1
S1
S2
S3
DAC
LPF
LPF
16
18
8
7
6
5
4
30
28
27
26
43
42
41
39
17
9
34
45
44
3
2
22
29
1
48
47
46
31
32
33
35
15
14
13
12
11
10
37
38
19
36
20
21
23
24
25
40

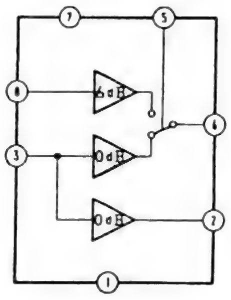

PLL
FILTER
MULTI PLEXER
I^2CBUS
VOLIUME HEADPHONES
TREBLE
VOLUME MAIN CONTROL
INTEGRATOR
REFERENCE VOLTAGE
CLIPPING DETECTOR
BASE WIDTH
MATRIX
54KHz FILTER
SWITCH
VOLIUME PER CONTROL
QUASI STEREO
BASS
CROSS ADJ



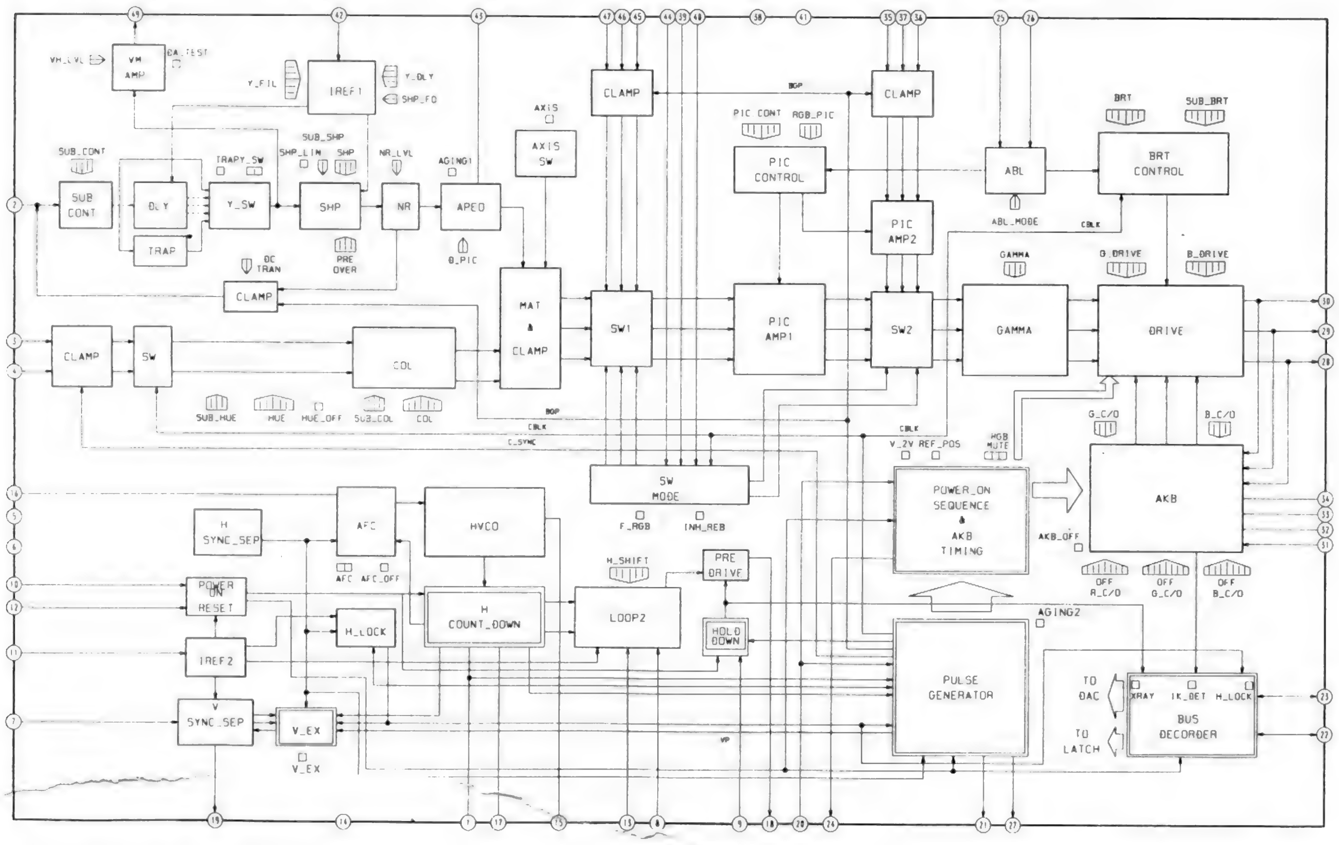
A BOARD IC301 TDA9145/N2B


SWITCH
I2CBUS
TIMING
IDENT
BANDPASS
ACC
CLOCHE
FOSTRL
SECAM DEMOD
DELAY
PEAKING
CHROMABP
PLL
HUE
PAL/NTSC DEMOD
SWITCH
TRAPS
SWITCH
DOUBLER
BIAS

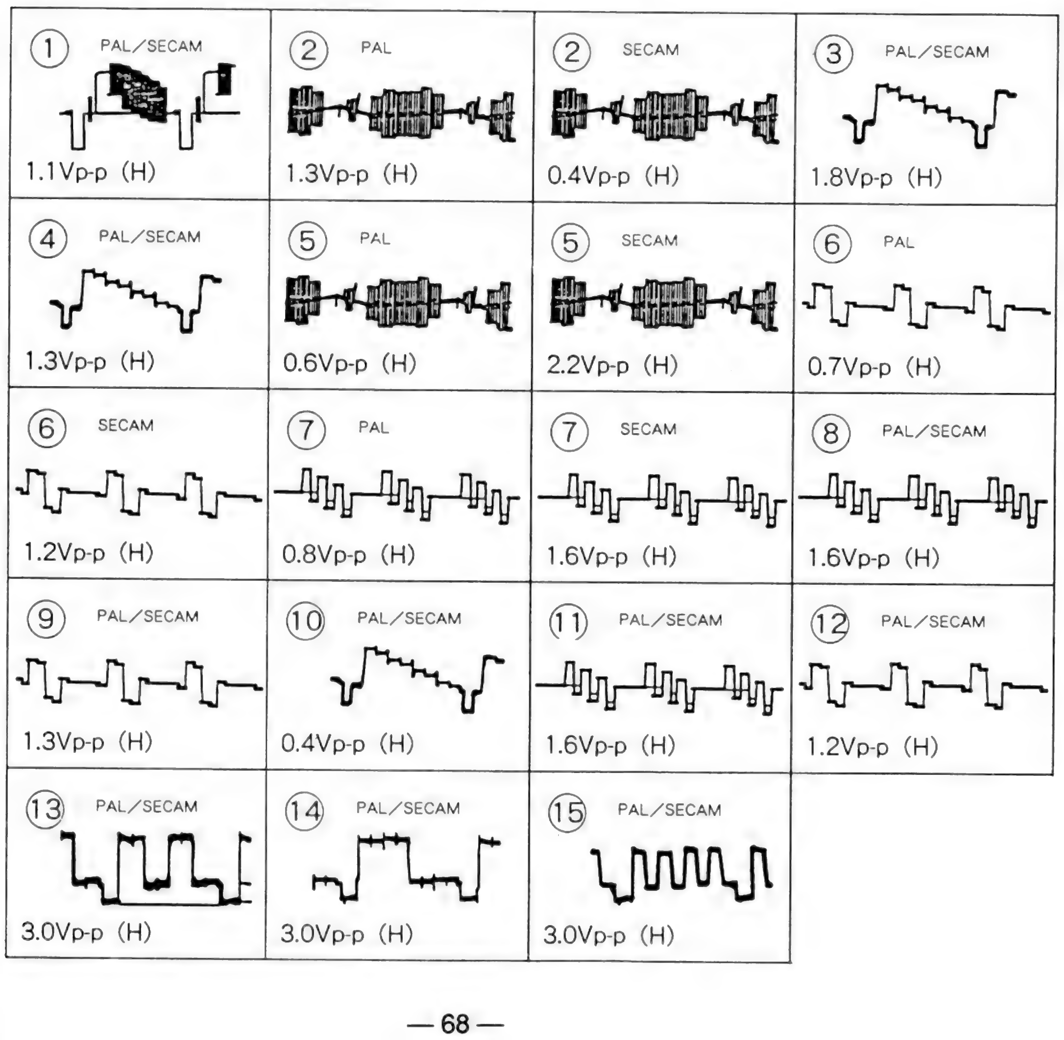
A BOARD IC402 TEA2114

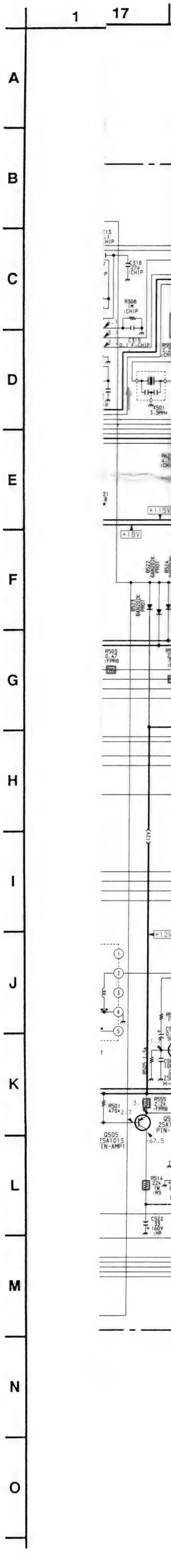


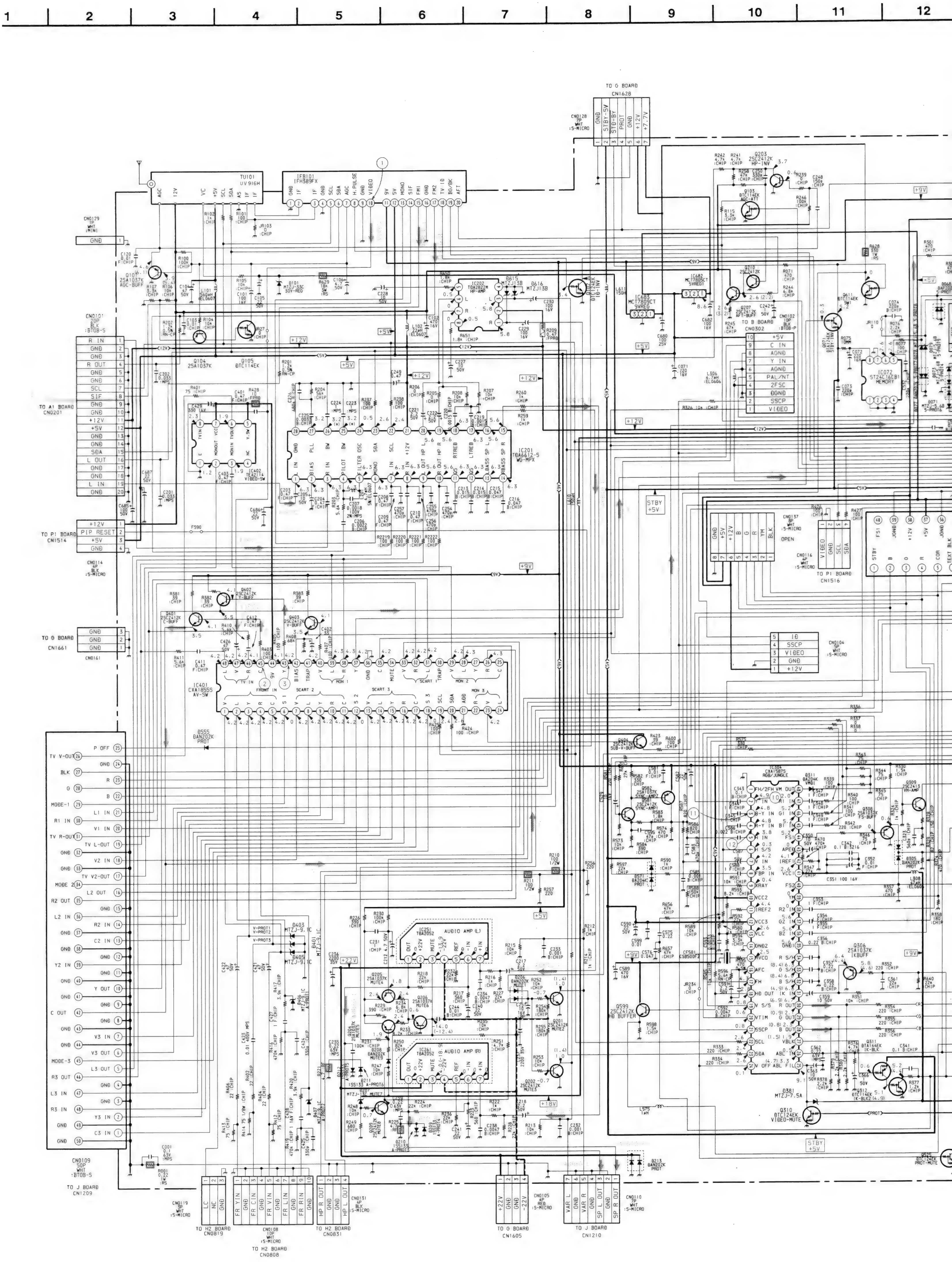
A BOARD IC304 CXA1587S

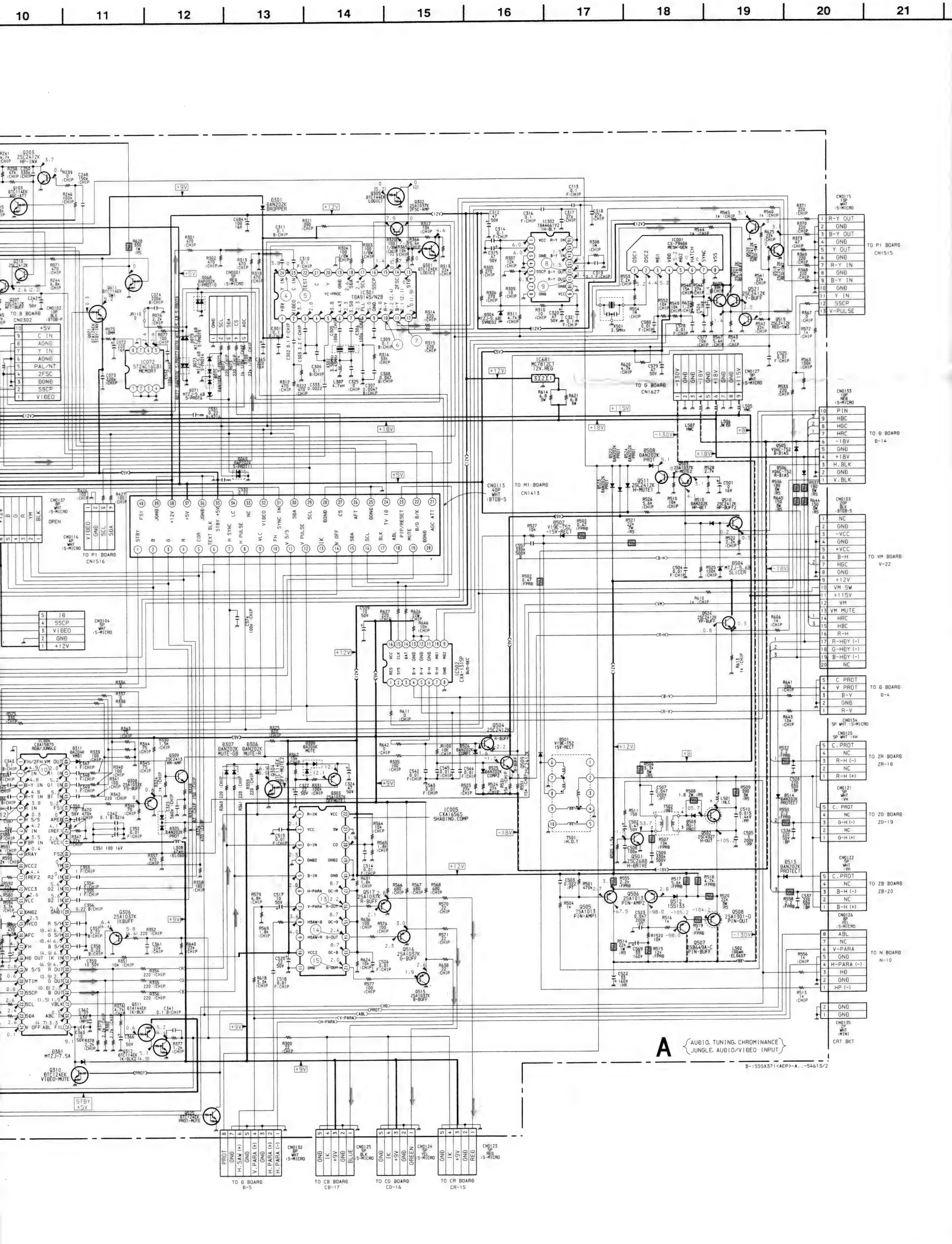

VM AMP
IREF1
CLAMP
CLAMP
PIC CONTROL
ABL
BRT CONTROL
SUB CONT
DLY
TRAP
Y_SW
SHP
NR
APED
AXIS SW
PIC AMP2
MAT & CLAMP
SW1
PIC AMP1
SW2
GAMMA
DRIVE
CLAMP
SW
COL
SW MODE
POWER_ON SEQUENCE & AKB TIMING
AKB
H SYNC_SEP
AFC
HVCO
POWER ON RESET
H_LOCK
H COUNT_DOWN
LOOP2
PRE DRIVE
HOLD DOWN
IREF2
V SYNC SEP
V_EX
PULSE GENERATOR
BUS DECORDER
TO DAC
TO LATCH

WAVEFORMS A BOARD




1
17
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
C318
R508
C319
X501 5.5MHz
+115V
+18V
R503
+12V
R501
Q505 2SA1013
R514
C522

1
2
3
4
5
6
7
8
9
10
11
12
TO G BOARD
CN1628
CN0128 7P WHT :S-MICRO
GND
STBY+5V
STD-BY
PROT
GND
+12V
+7.7V
TU101 UV916H
AGC
12V
VC
+5V
SCL
SDA
AS
IF
IF
IFB101 IFH389FX
GND
IF
IF
GND
SCL
SDA
AGC
H.PULSE
GND
VIDEO
9V
5V
MONO
SIF
FM1
GND
FM2
TV ID
BG/DK
AFT
CN0129 1P WHT :MINI
GND
Q101 2SA1037K AGC-BUFF
Q104 2SA1037K
Q105 DTC114EK
D101 MTZJ-33C 30V-REG
L101 560μH EL0607
L102 22μH EL0607
IC202 TDA2822M HP-AMP
D615 MTZJ13B
D616 MTZJ13B
IC603 MCT7809CT 9VREG
IC682 MCT7805CT 5VREG
Q203 2SC2412K HP-INV
Q103 DTC114EK AGC-ATT
Q210 2SC2412K
Q207 2SC2412K AFT-BUFF
CN0101 20P BLK :BT08-S
R IN
GND
GND
R OUT
GND
GND
SCL
SIF
GND
GND
+12V
+5V
GND
GND
GND
SDA
L OUT
GND
GND
L IN
GND
TO A1 BOARD CN0201
TO P1 BOARD CN1514
+12V
PIP RESET
+5V
GND
CN0114 4P BLK :S-MICRO
IC402 TEA2114 VIDEO-SW
IC201 TDA6612-5 WG-MPX
GND
PLL
BW
BW
FILTER OSC
SDA
SCL
+12V
OUT HP L
OUT HP R
RTREB
LTREB
BASS SP L
BASS SP R
BIAS
PILOT
MONO
TO B BOARD CN0302
+5V
C IN
AGND
Y IN
AGND
PAL/NT
2FSC
DGND
SSCP
VIDEO
L306 4.7μH EL0606
CN0137 8P WHT :S-MICRO OPEN
GND
+12V
B
G
R
YM
BLK
CN0116 4P WHT :S-MICRO
TO P1 BOARD CN1516
VIDEO
GND
SCL
SDA
IC072 ST24C16CB1 MEMORY
Q071 DTC124EK
STBY +5V
TO G BOARD CN1661
GND
GND
GND
CN0161
Q401 2SC2412K C-BUFF
Q402 2SC2412K Y-BUFF
Q403 2SC2412K V-BUFF
IC401 CXA1855S AV-SW
TV IN
FRONT IN
SCART 2
SCART 3
MON 1
MON 2
MON 3
BIAS
TRAP
GND
MUTE
SCL
SDA
ADD
D555 BAN202K PROT
CN0104 5P WHT :S-MICRO
ID
SSCP
VIDEO
GND
+12V
Q406 2SC2412K SUB-V-BUFF
IC304 CXA1587S RGB/JUNGLE
Q582 2SA1037K SYNC-AMP2
Q581 2SC2412K SYNC-AMP1
Q309 2SC2412K VM-AMP
Q308 2SA1037K FS-BUFF
Q306 2SA1037K IKBUFF
Q311 DTA144EK IK-BLK
Q312 DTC114EK IK-BLK2
Q310 DTC124EK VIDEO-MUTE
D381 MTZJ-7.5A
Q599 2SC2412K HD BUFFER
CF581 CSB500F2
P OFF
TV V-OUT
BLK
R
G
B
MODE-1
L1 IN
R1 IN
V1 IN
TV R-OUT
TV L-OUT
V2 IN
TV V2-OUT
MODE 2
L2 OUT
R2 OUT
L2 IN
R2 IN
C2 IN
Y2 IN
Y OUT
C OUT
V3 IN
V3 OUT
MODE-3
L3 OUT
R3 OUT
L3 IN
R3 IN
Y3 IN
C3 IN
CN0109 50P WHT :BT08-S
TO J BOARD CN1209
D403 MTZJ-9.1C
D405 MTZJ-9.1C
D401 MTZJ-9.1C
IC251 TBA2052 AUDIO AMP (L)
IC261 TBA2052 AUDIO AMP (R)
Q205 2SA1037K MUTE4
Q206 2SA1037K MUTE6
Q204 2SA1037K MUTE5
Q208 MUTE8
Q201 2SC2412K MUTE2
Q202 2SC2412K MUTE3
D206 BAN202K MUTE1
D211 1SS133 A-PROT6
D210 1SS133 A-PROT3
D213 BAN202K PROT
CN0119 3P WHT :S-MICRO
LC
NC
GND
TO H2 BOARD CN0819
FR Y IN
GND
FR C IN
GND
FR V IN
GND
FR L IN
GND
FR R IN
GND
CN0108 10P WHT :S-MICRO
TO H2 BOARD CN0808
HP R OUT
GND
HP L OUT
CN0131 4P BLK :S-MICRO
TO H2 BOARD CN0831
+22V
GND
GND
-22V
CN0105 4P RED :S-MICRO
TO G BOARD CN1605
VAR L
GND
VAR R
GND
SP L OUT
GND
SP R OUT
CN0110 7P WHT :S-MICRO
TO J BOARD CN1210
+9V
+12V
+5V
+18V
+22V


10
11
12
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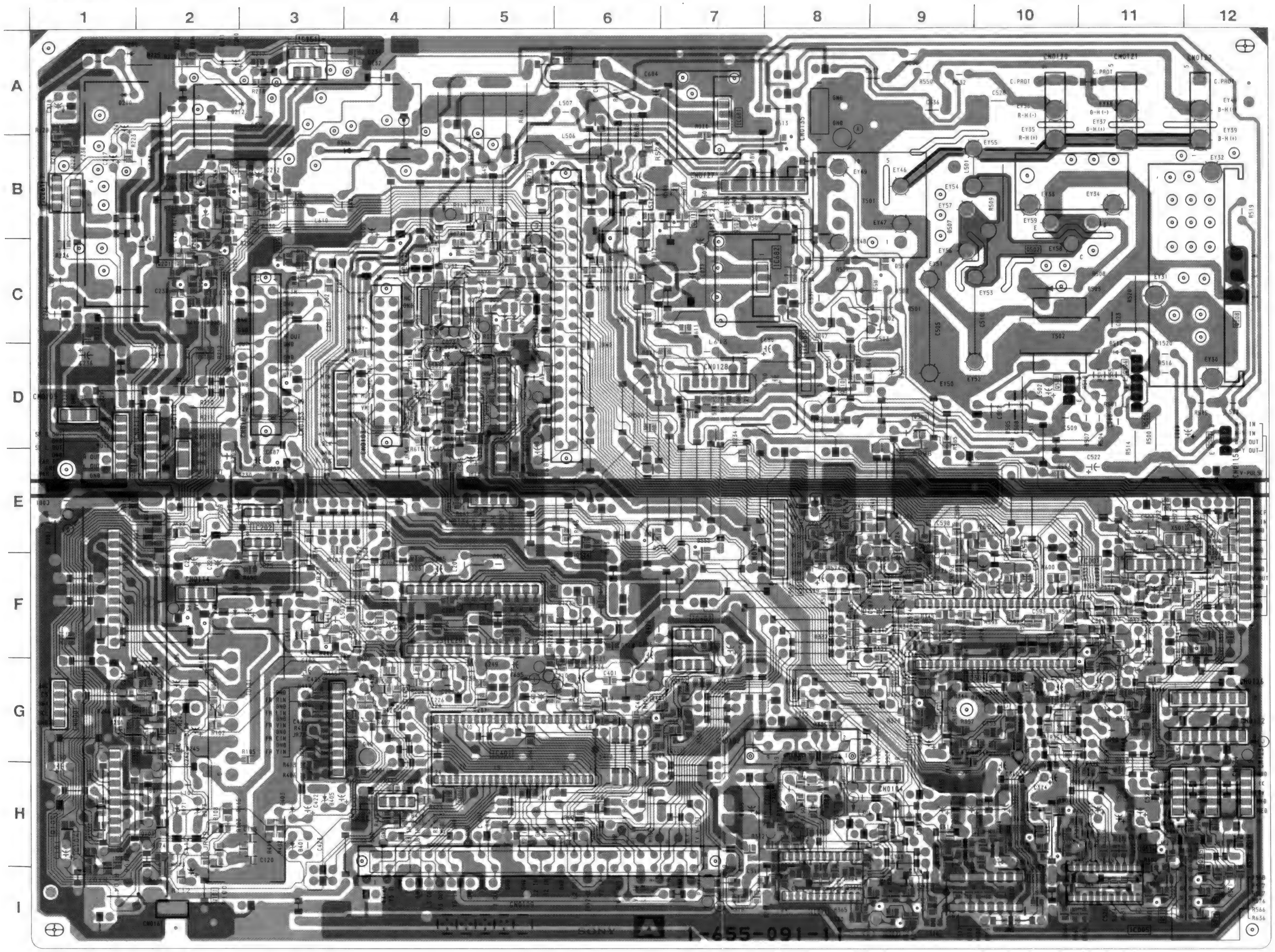
15
16
17
18
19
20
21
IC301 TDA9145/N2B YC-PROC
IC302 TBA4661V2 1H-DL
IC001 CX-7948A RESH-GEN
IC072 ST24C16CB1 MEMORY
IC681 MC7812CT 12V.REG
IC502 CXA-1315P BUS-DEC
IC005 CXA1656S SHADING.COMP
IC306 CXA1587S RGB/JUNGLE
T501 H.O.T
X501 3.5MHz
CN0115 13P WHT :S-MICRO
R-Y OUT
GND
B-Y OUT
GND
Y OUT
GND
R-Y IN
GND
B-Y IN
GND
Y IN
SSCP
V-PULSE
TO P1 BOARD CN1515
CN0133 10P RED :S-MICRO
PIN
HBC
HGC
HRC
-18V
GND
+18V
H.BLK
GND
V.BLK
TO D BOARD D-14
CN0103 20P BLK :BTOB-S
NC
GND
-VCC
GND
+VCC
B-H
HGC
GND
+12V
VM SW
+115V
VM
VM MUTE
HRC
HBC
R-H
R-HDY (-)
G-HDY (-)
B-HDY (-)
NC
TO VM BOARD V-22
C PROT
V PROT
B-V
GND
R-V
TO D BOARD D-4
TO ZR BOARD ZR-18
R-H (-)
R-H (+)
TO ZG BOARD ZG-19
G-H (-)
G-H (+)
TO ZB BOARD ZB-20
B-H (-)
B-H (+)
CN0126 8P YEL :S-MICRO
ABL
V-PARA
H-PARA (-)
HD
HP (-)
TO N BOARD N-10
CN0135 2P WHT :MINI
CRT BKT
CN0113 40P WHT :BTOB-S
TO M1 BOARD CN1413
TO G BOARD CN1627
-130V
+18V
+115V
CN0116 4P WHT :S-MICRO
TO P1 BOARD CN1516
CN0104 5P WHT :S-MICRO
ID
SSCP
VIDEO
GND
+12V
TO B BOARD CN0302
+5V
C IN
AGND
Y IN
PAL/NT
2FSC
DGND
VIDEO
CN0132 8P WHT :S-MICRO
PROT
H.SAW (+)
V.PARA (+)
H.PARA (+)
H.PARA (-)
TO D BOARD D-5
CN0125 5P BLK :S-MICRO
IK
+9V
BLUE
TO CB BOARD CB-17
CN0124 5P YEL :S-MICRO
GREEN
TO CG BOARD CG-16
CN0123 5P RED :S-MICRO
RED
TO CR BOARD CR-15
STBY +5V
Q310 DTC124EK VIDEO-MUTE
Q525 DTC124EK PROT-MUTE
A
AUDIO, TUNING, CHROMINANCE
JUNGLE, AUDIO/VIDEO INPUT
B-:SSSX371<AEP>-A..-S4613/2

A [AUDIO, TUNING, CHROMINANCE JUNGLE, AUDIO/VIDEO INPUT]

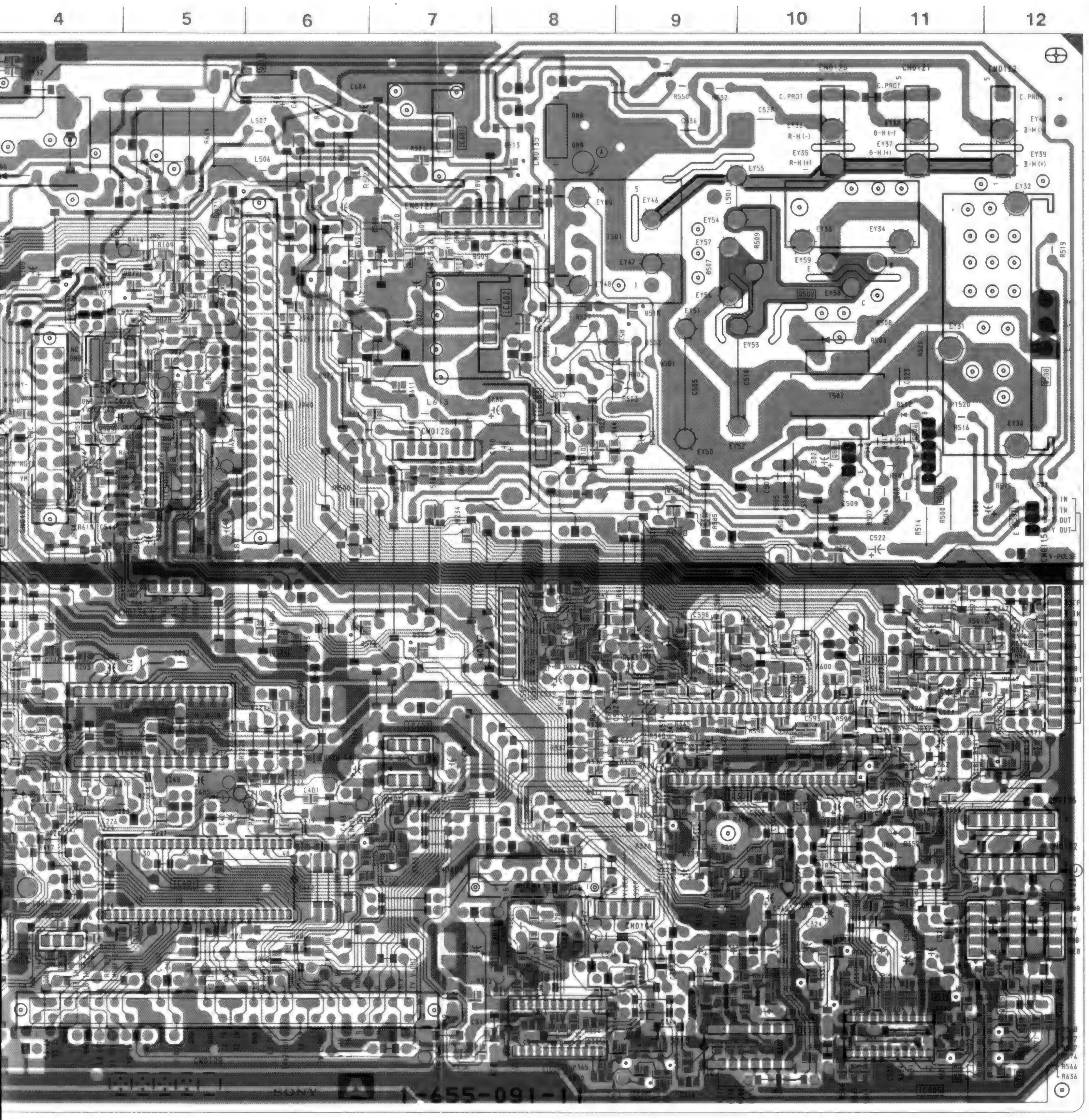
— A BOARD —



— A BOARD —

IC	
IC001	F-11
IC005	I-11
IC072	C-4
IC201	F-5
IC202	E-3
IC251	A-3
IC261	B-1
IC301	I-8
IC302	I-10
IC304	G-10
IC401	G-5
IC402	F-7
IC502	D-5
IC681	A-7
IC682	C-8
IC683	D-8
TRANSISTOR	
Q071	B-5
Q101	I-2
Q102	H-1
Q103	H-2
Q104	H-1
Q105	H-1
Q201	C-2
Q202	C-2
Q203	G-2
Q204	B-3
Q205	B-2
Q206	B-2
Q207	G-2
Q209	C-2
Q210	G-2
Q301	I-9
Q302	I-9
Q303	H-10
Q304	H-10
Q305	I-9
Q306	G-11
Q308	G-9
Q309	G-9
Q310	G-11

- ▨ : Pattern from the side which enables
- ▨ : Pattern of the rear side.



— A BOARD —

IC	
IC001	F-11
IC005	I-11
IC072	C-4
IC201	F-5
IC202	E-3
IC251	A-3
IC261	B-1
IC301	I-8
IC302	I-10
IC304	G-10
IC401	G-5
IC402	F-7
IC502	D-5
IC681	A-7
IC682	C-8
IC683	D-8
TRANSISTOR	
Q071	B-5
Q101	I-2
Q102	H-1
Q103	H-2
Q104	H-1
Q105	H-1
Q201	C-2
Q202	C-2
Q203	G-2
Q204	B-3
Q205	B-2
Q206	B-2
Q207	G-2
Q209	C-2
Q210	G-2
Q301	I-9
Q302	I-9
Q303	H-10
Q304	H-10
Q305	I-9
Q306	G-11
Q308	G-9
Q309	G-9
Q310	G-11
Q311	F-10
Q312	F-11
Q401	G-7
Q402	G-7
Q403	G-7
Q404	H-4
Q501	D-10
Q502	C-10
Q503	B-7
Q504	D-4
Q505	D-11
Q506	D-11
Q507	D-12
Q508	C-12
Q509	D-4
Q510	D-8
Q511	B-7
Q515	I-12
Q516	I-12
Q517	I-12
Q518	F-12
Q519	F-12
Q520	F-12
Q521	F-12
Q522	F-12
Q524	F-6
Q525	F-11
Q581	F-8
Q582	E-8
Q599	D-9
Q611	A-6
DIODE	
D068	C-5
D069	G-2
D071	H-2
D073	H-2
D075	H-2
D077	C-5
D078	C-5
D079	C-5
D101	F-2
D206	C-2
D207	B-2
D208	B-2
D209	A-1
D210	A-1
D211	A-2
D212	A-2
D213	C-1
D301	H-7
D304	H-10
D305	G-9
D306	H-10
D307	H-10
D308	H-10
D311	G-8
D381	G-11
D401	H-3
D403	H-3
D405	H-3
D406	G-4
D407	G-4
D501	C-9
D502	C-9
D503	C-10
D504	D-9
D505	B-5
D506	B-3
D508	B-7
D510	C-9
D512	D-11
D513	A-8
D514	E-6
D522	C-6
D523	D-7
D524	B-6
D525	D-4
D526	D-4
D555	E-7
D571	E-9
D615	E-2
D616	E-3

- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

— D BOARD —

IC	
IC901	D-4
IC902	B-9
IC903	B-11
IC904	C-11
IC905	C-12
IC906	B-12
IC907	E-5
IC908	E-4
IC910	C-7
IC1701	A-2
IC1702	D-2
IC1703	G-2
IC1704	B-2
IC1705	G-1
IC1706	C-14
IC1707	E-14
IC1708	H-14
IC1709	F-15
IC1710	D-15
IC1714	B-4
IC1715	C-5
IC1718	B-5

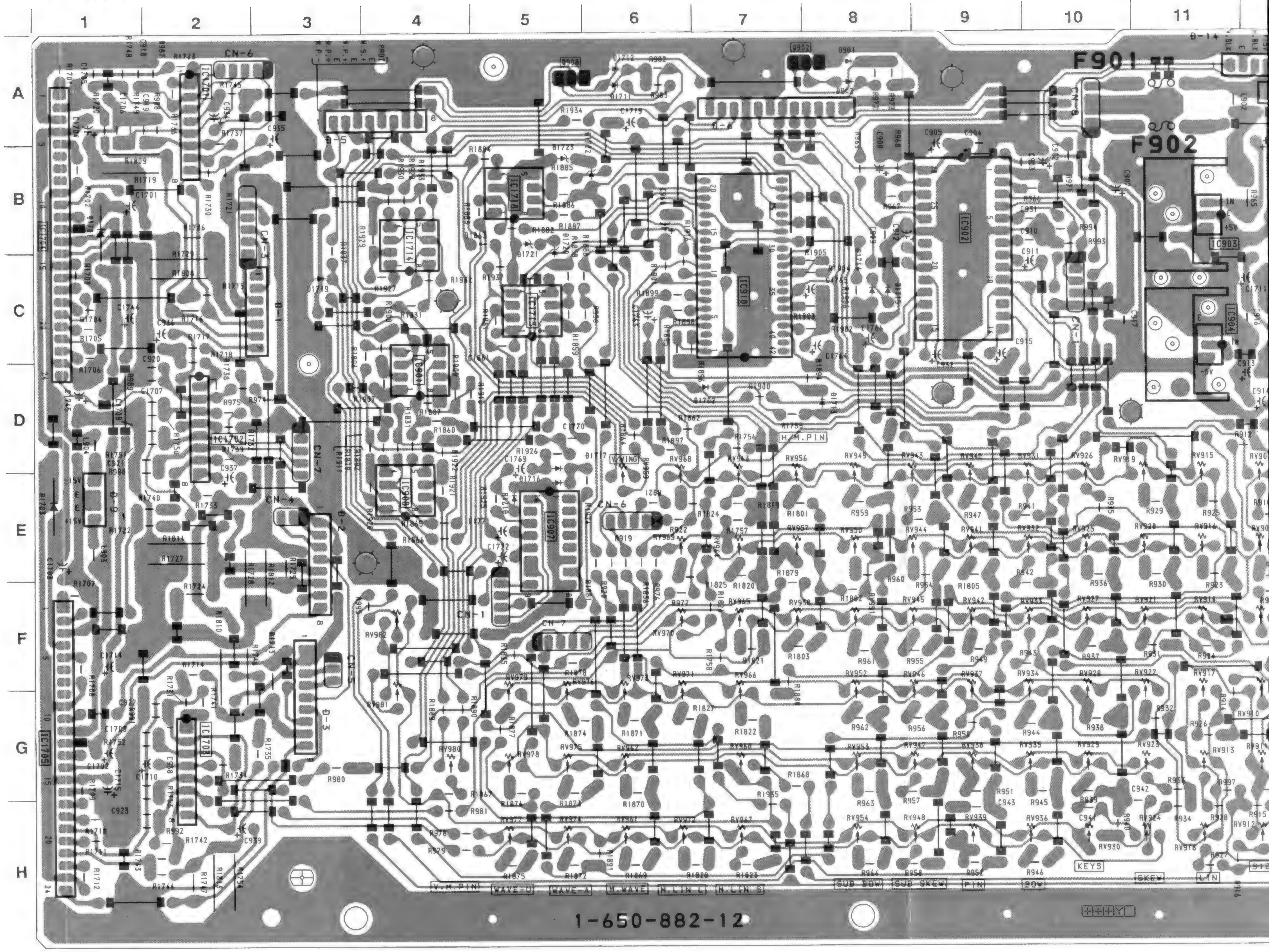
TRANSISTOR	
Q902	A-7
Q906	B-13
Q907	B-13
Q908	A-5
Q909	C-13
Q910	B-15
Q911	C-15
Q912	C-14

DIODE	
D901	A-8
D902	A-8
D1702	D-7
D1704	C-14
D1705	F-14
D1706	H-14
D1707	A-13
D1708	A-13
D1709	G-13
D1710	D-14
D1711	A-6
D1712	A-6
D1713	D-8
D1714	C-8
D1715	C-8
D1716	E-5
D1717	D-5
D1718	E-5
D1720	B-5
D1721	B-5
D1722	B-6
D1723	B-5

VARIABLE RESISTOR	
RV901	D-12
RV902	E-12
RV903	F-12
RV904	F-12
RV905	G-12
RV906	H-12
RV907	D-12
RV908	E-12
RV909	F-12
RV910	G-12
RV911	G-12
RV912	H-12
RV913	G-11
RV914	F-11
RV915	D-11
RV916	E-11
RV917	F-12
RV918	H-11
RV919	D-11
RV920	E-11
RV921	F-11
RV922	F-11
RV923	G-11
RV924	H-11
RV925	E-10
RV926	D-10
RV927	F-10
RV928	F-10
RV929	G-10
RV930	H-10
RV931	D-10
RV932	E-10
RV933	F-10
RV934	F-10
RV935	G-10
RV936	H-10
RV937	F-9
RV938	G-9
RV939	H-9
RV940	D-9
RV941	E-9
RV942	F-9
RV943	D-9
RV944	E-9
RV945	F-9
RV946	F-9
RV947	G-9
RV948	H-9
RV949	D-8
RV950	E-8
RV951	F-8
RV952	F-8
RV953	G-8
RV954	H-8
RV956	D-7
RV957	E-7
RV958	F-7
RV959	D-6
RV961	H-6
RV962	G-6
RV963	D-7
RV964	E-7
RV965	F-7
RV966	F-7
RV967	H-7
RV968	D-6
RV969	E-6
RV970	F-6
RV971	F-6
RV972	H-6
RV973	F-6
RV974	H-5
RV975	G-5
RV976	F-5
RV977	H-5
RV978	G-5
RV979	F-5
RV980	G-4
RV981	G-4
RV982	F-4

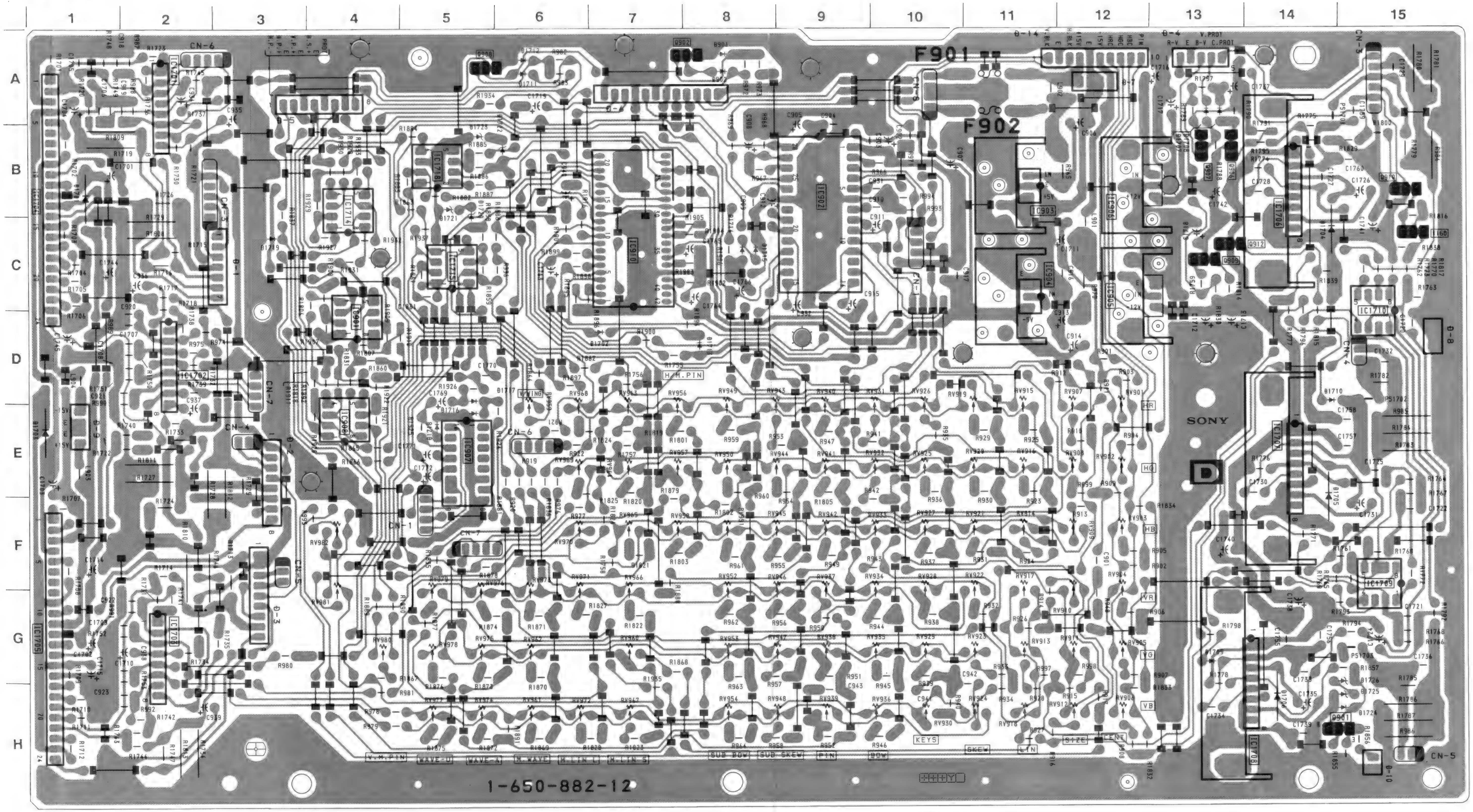
D [REGISTRATION, DEFLECTION, V-OUT, SUB-OUT]

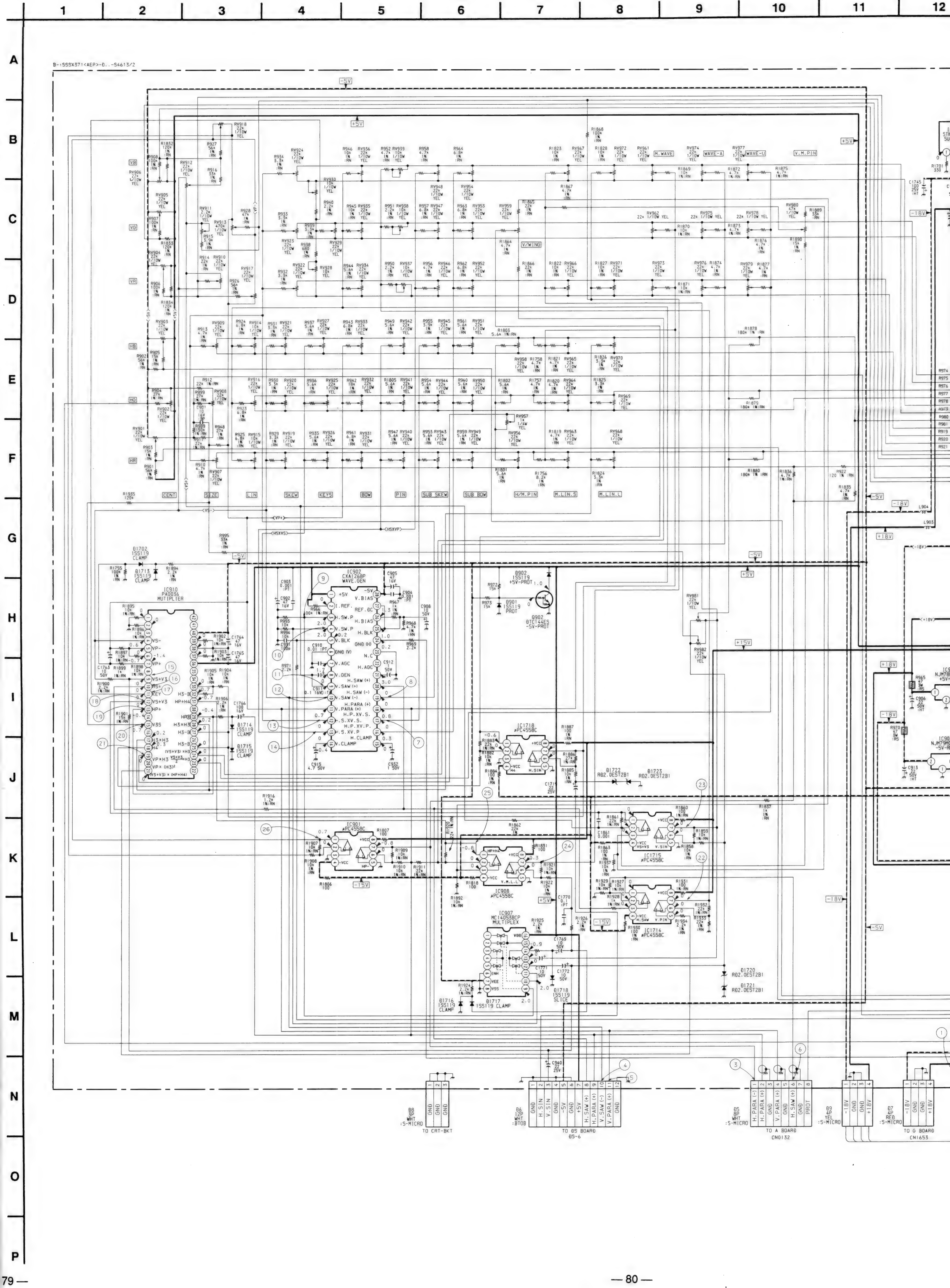
— D BOARD —

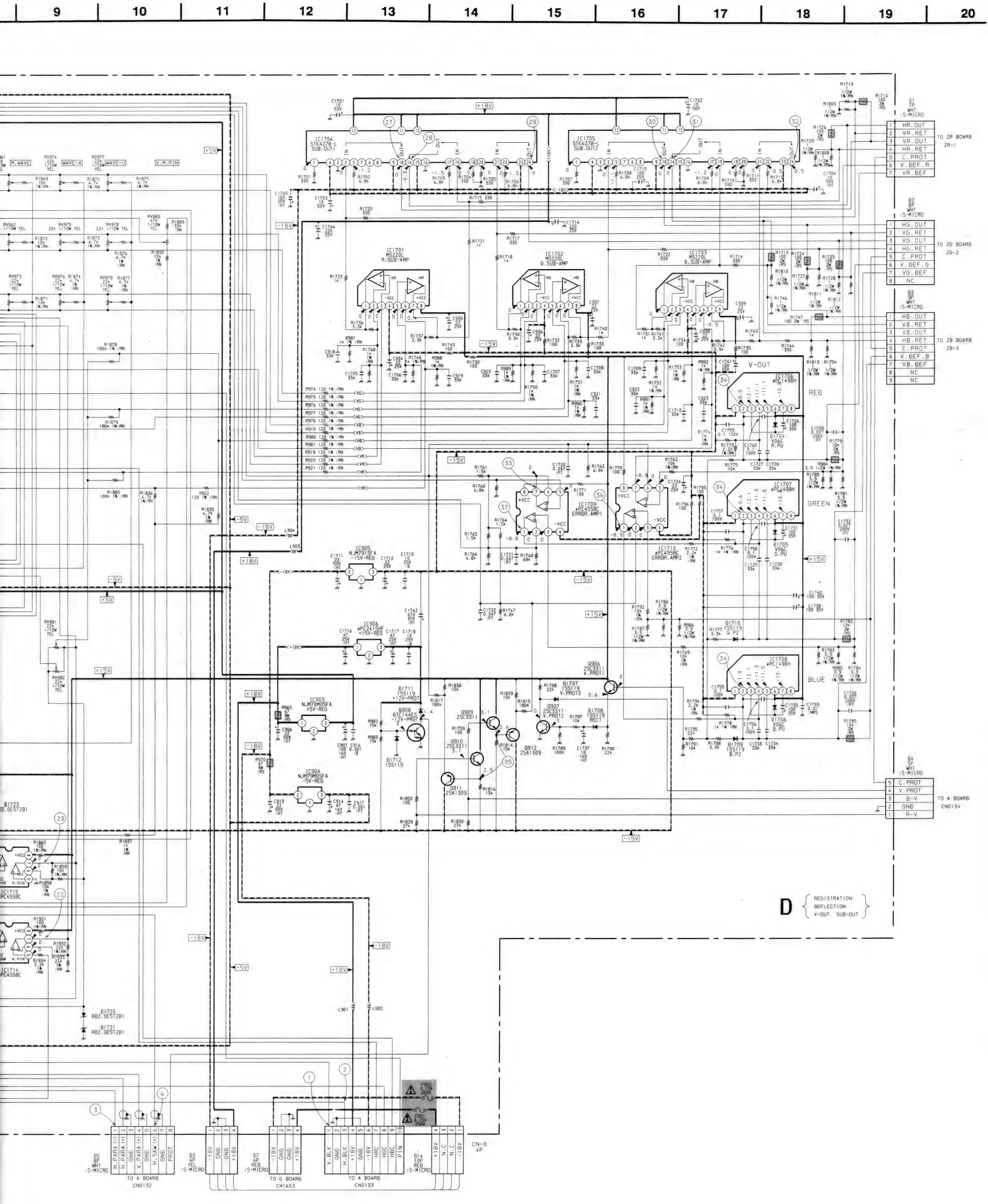

1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
F901
F902
IC902
IC903
IC904
IC910
IC907
IC908
IC901
IC1701
IC1702
IC1703
IC1704
IC1705
IC1714
IC1715
IC1718
CN-1
CN-3
CN-4
CN-5
CN-6
CN-7
H.M.PIN
V.M.PIN
WAVE-U
WAVE-A
H.WAVE
H.LIN L
H.LIN S
SUB BOW
SUB SKEW
PIN
BOW
KEYS
SKEW
LIN
1-650-882-12

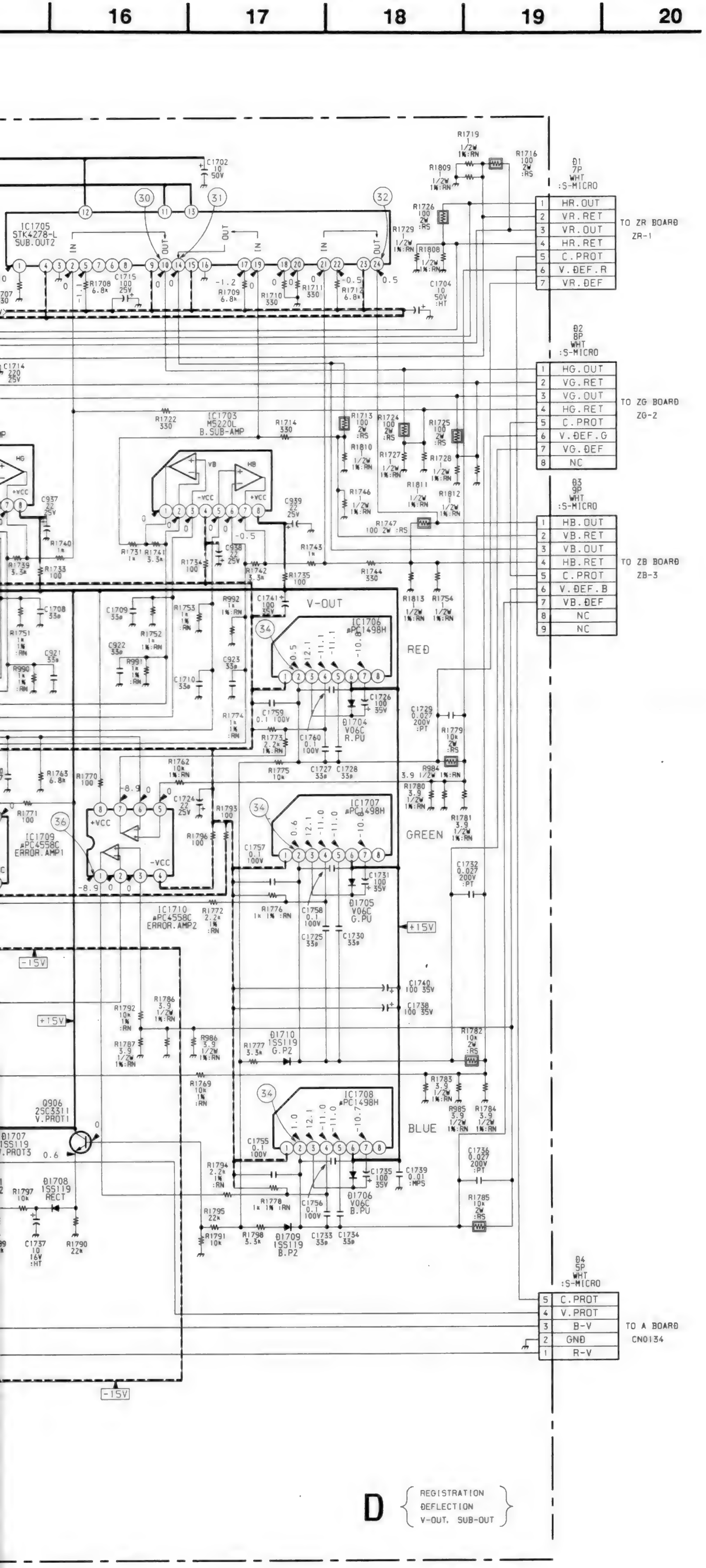
D REGISTRATION, DEFLECTION, V-OUT, SUB-OUT

— D BOARD —

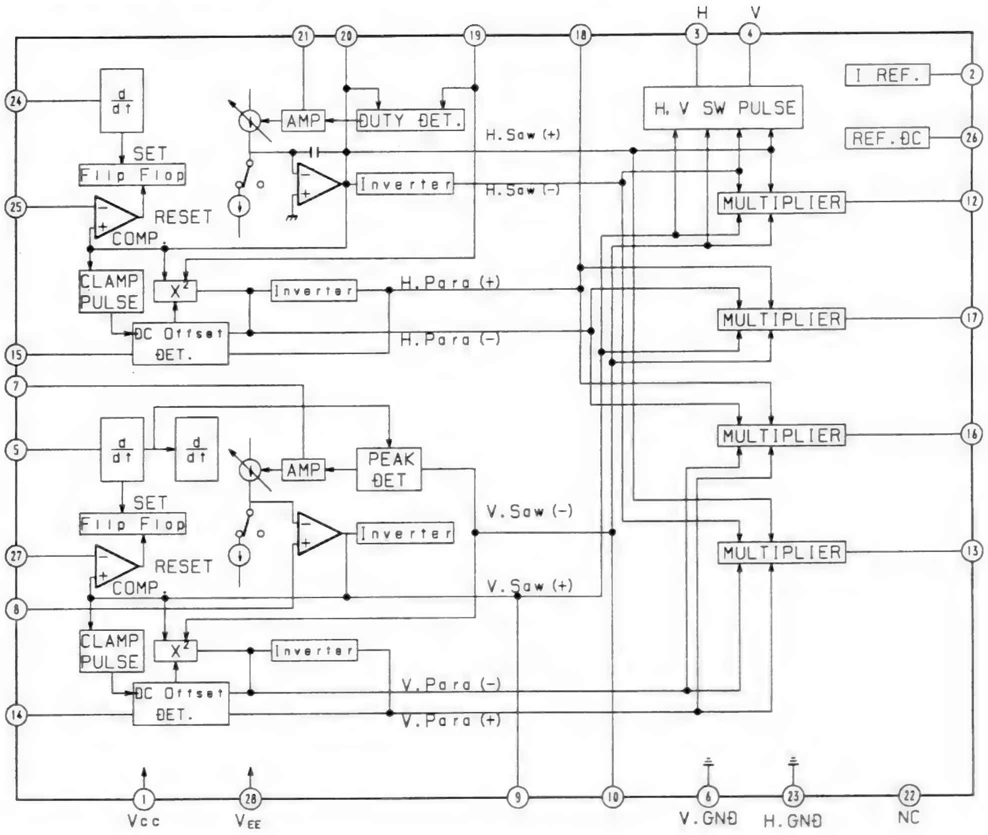

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
A
B
C
D
E
F
G
H
F901
F902
SONY
D
1-650-882-12
CN-3
CN-4
CN-5
CN-6
CN-7
CN-8
IC901
IC902
IC903
IC904
IC905
IC906
IC907
IC908
IC910
IC1701
IC1702
IC1705
IC1706
IC1708
IC1709
IC1710
IC1714
IC1715
IC1718
V.M.PIN
WAVE-U
WAVE-X
H.WAVE
H.LIN L
H.LIN S
SUB BOW
SUB SKEW
PIN
BOW
KEYS
SKEW
LIN
SIZE
CENT
H/M.PIN
V.LING
HR
HG
HB
VR
VG
VB
V.PROT


B-:SSSX371<AEP>-D..-S4613/2
IC902 CXA1268P WAVE.GEN
IC910 PA0036 MULTIPLIER
IC901 μPC4558C
IC908 μPC4558C
IC907 MC14053BCP MULTIPLEX
IC1718 μPC4558C
IC1715 μPC4558C
IC1714 μPC4558C
Q902 DTC144ES -5V-PROT
D902 1SS119 +5V-PROT
D901 1SS119 PROT
D1702 1SS119 CLAMP
D1713 1SS119 CLAMP
D1714 1SS119 CLAMP
D1715 1SS119 CLAMP
D1716 1SS119 CLAMP
D1717 1SS119 CLAMP
D1718 1SS119 SLICE
D1720 RD2.0ESTZB1
D1721 RD2.0ESTZB1
D1722 RD2.0ESTZB1
D1723 RD2.0ESTZB1
CENT
SIZE
LIN
SKEW
KEYS
BOW
PIN
SUB SKEW
SUB BOW
H/M.PIN
M.LIN.S
M.LIN.L
M.WAVE
WAVE-A
WAVE-U
V.M.PIN
V/WING
VB
VG
VR
HB
HG
HR
+5V
-5V
+15V
-15V
+18V
-18V
B8 3P WHT :S-MICRO
TO CRT-BKT
B6 12P WHT :BTOB
TO B5 BOARD B5-6
GND
H.SIN
V.SIN
-5V
+5V
H.SAW (+)
V.PARA (+)
V.SAW (-)
B5 8P WHT :S-MICRO
TO A BOARD CN0132
H.PARA (-)
H.PARA (+)
V.PARA (+)
H.SAW (+)
PROT
B9 4P YEL :S-MICRO
B7 4P RED :S-MICRO
TO G BOARD CN1653
-18V
+18V

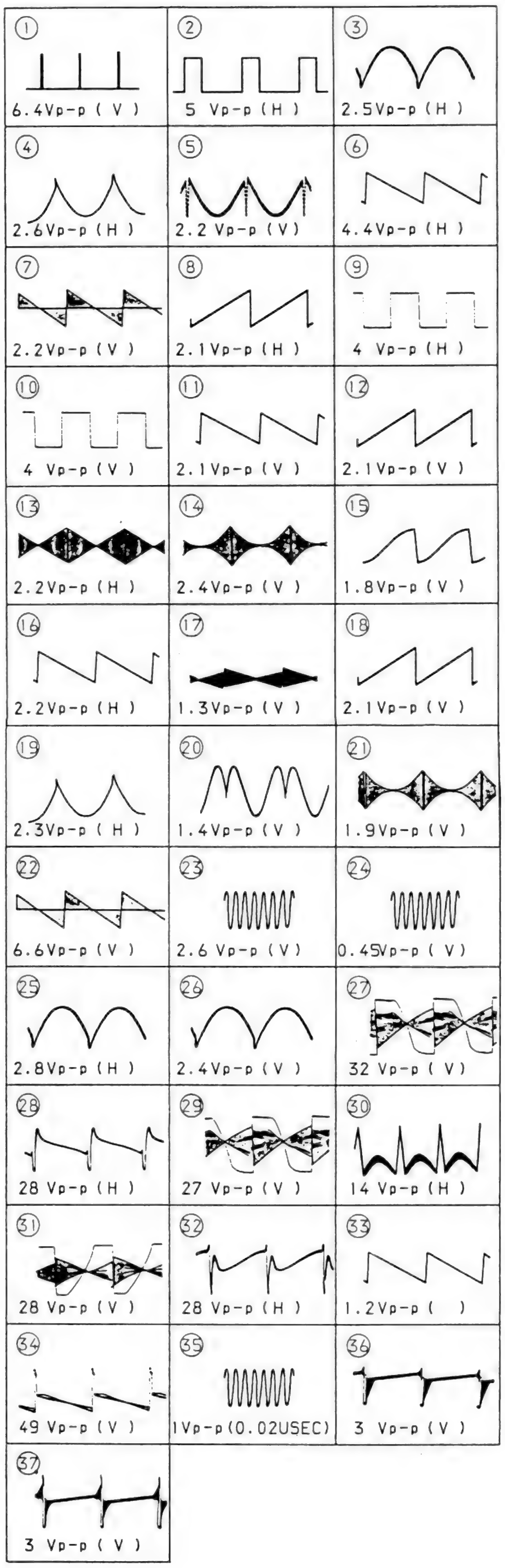

9
10
11
12
13
14
15
16
17
18
19
20
M.WAVE
WAVE-A
WAVE-U
V.M.PIN
IC1704 STK4278-L SUB.OUT1
IC1705 STK4278-L SUB.OUT2
IC1701 M5220L R.SUB-AMP
IC1702 M5220L G.SUB-AMP
IC1703 M5220L B.SUB-AMP
V-OUT
IC1706 μPC1498H
RED
IC1707 μPC1498H
GREEN
IC1708 μPC1498H
BLUE
IC1709 μPC4558C ERROR.AMP1
IC1710 μPC4558C ERROR.AMP2
IC905 NJM7915FA -15V-REG
IC906 μPC2415HF +15V-REG
IC903 NJM78M05FA +5V-REG
IC904 NJM79M05FA -5V-REG
Q906 2SC3311 V.PROT1
D1707 1SS119 V.PROT3
D1708 1SS119 RECT
Q907 2SC3311 V.PROT2
D1711 1SS119 +12V-PROT
Q908 DTC144ES -12V-PROT
D1712 1SS119
Q909 2SC3311
Q910 2SC3311
Q911 2SA1309
Q912 2SA1309
D1704 V06C R.PU
D1705 V06C G.PU
D1706 V06C B.PU
D1710 1SS119 G.P2
D1709 1SS119 B.P2
+18V
-18V
+15V
-15V
+5V
-5V
D1 7P WHT :S-MICRO
1 HR.OUT
2 VR.RET
3 VR.OUT
4 HR.RET
5 C.PROT
6 V.DEF.R
7 VR.DEF
TO ZR BOARD ZR-1
D2 8P WHT :S-MICRO
1 HG.OUT
2 VG.RET
3 VG.OUT
4 HG.RET
5 C.PROT
6 V.DEF.G
7 VG.DEF
8 NC
TO ZG BOARD ZG-2
D3 9P WHT :S-MICRO
1 HB.OUT
2 VB.RET
3 VB.OUT
4 HB.RET
5 C.PROT
6 V.DEF.B
7 VB.DEF
8 NC
9 NC
TO ZB BOARD ZB-3
D4 5P WHT :S-MICRO
5 C.PROT
4 V.PROT
3 B-V
2 GND
1 R-V
TO A BOARD CN0134
D1723 RD2.0ESTZB1
IC1715 μPC4558C
IC1714 μPC4558C
D1720 RD2.0ESTZB1
D1721 RD2.0ESTZB1
L901
L902
L903
L904
F902 3.15A 250V
F901 3.15A 250V
D5 8P WHT :S-MICRO
H.PARA(-)
H.PARA(+)
GND
V.PARA(+)
GND
H.SAW(+)
GND
PROT
TO A BOARD CN0132
D9 4P YEL :S-MICRO
-18V
GND
GND
+18V
D7 4P RED :S-MICRO
-18V
GND
GND
+18V
TO G BOARD CN1653
D14 10P RED :S-MICRO
V.BLK
H.BLK
+18V
GND
-18V
HRC
HGC
HBC
PIN
TO A BOARD CN0133
CN-8 4P
+18V
N.C
N.C
-18V
D
REGISTRATION
DEFLECTION
V-OUT, SUB-OUT

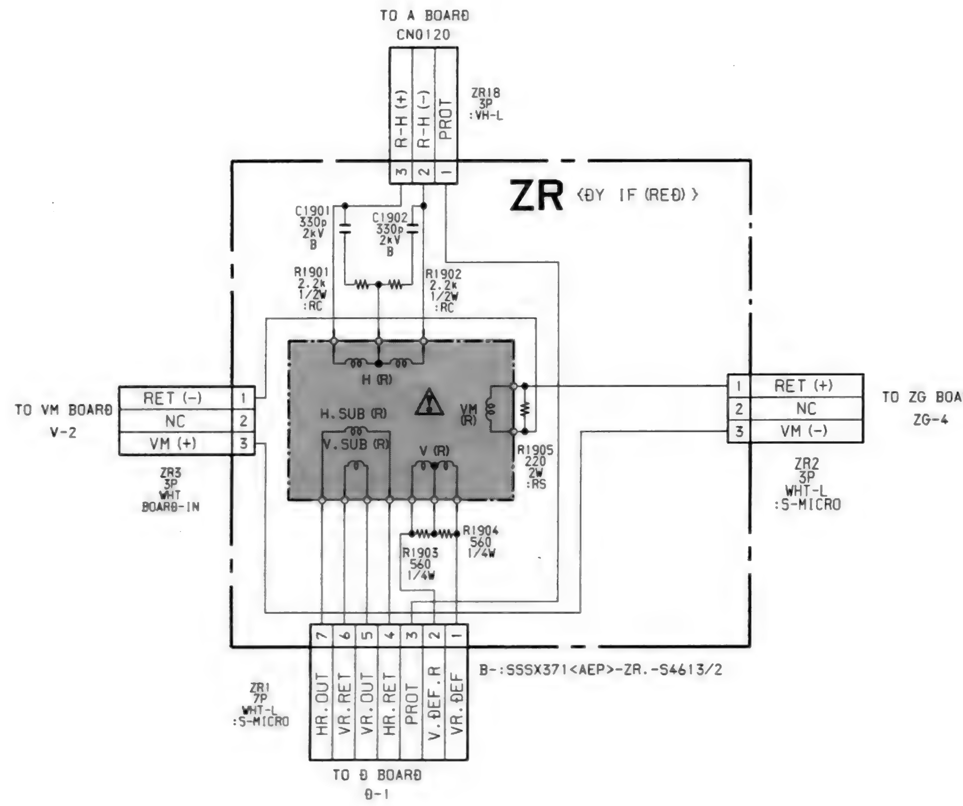

16
17
18
19
20
IC1705
STK4278-L
SUB.OUT2
IC1703
M5220L
B.SUB-AMP
IC1706
μPC1498H
V-OUT
RED
IC1707
μPC1498H
GREEN
IC1708
μPC1498H
BLUE
IC1709
μPC4558C
ERROR.AMP1
IC1710
μPC4558C
ERROR.AMP2
Q906
2SC5311
V.PROT1
D1704
V06C
R.PU
D1705
V06C
G.PU
D1706
V06C
B.PU
D1708
1SS119
RECT
B1
7P
WHT
S-MICRO
1 HR.OUT
2 VR.RET
3 VR.OUT
4 HR.RET
5 C.PROT
6 V.DEF.R
7 VR.DEF
TO ZR BOARD
ZR-1
B2
8P
WHT
S-MICRO
1 HG.OUT
2 VG.RET
3 VG.OUT
4 HG.RET
5 C.PROT
6 V.DEF.G
7 VG.DEF
8 NC
TO ZG BOARD
ZG-2
B3
9P
WHT
S-MICRO
1 HB.OUT
2 VB.RET
3 VB.OUT
4 HB.RET
5 C.PROT
6 V.DEF.B
7 VB.DEF
8 NC
9 NC
TO ZB BOARD
ZB-3
B4
5P
WHT
S-MICRO
5 C.PROT
4 V.PROT
3 B-V
2 GND
1 R-V
TO A BOARD
CN0134
+15V
-15V
D
REGISTRATION
DEFLECTION
V-OUT, SUB-OUT

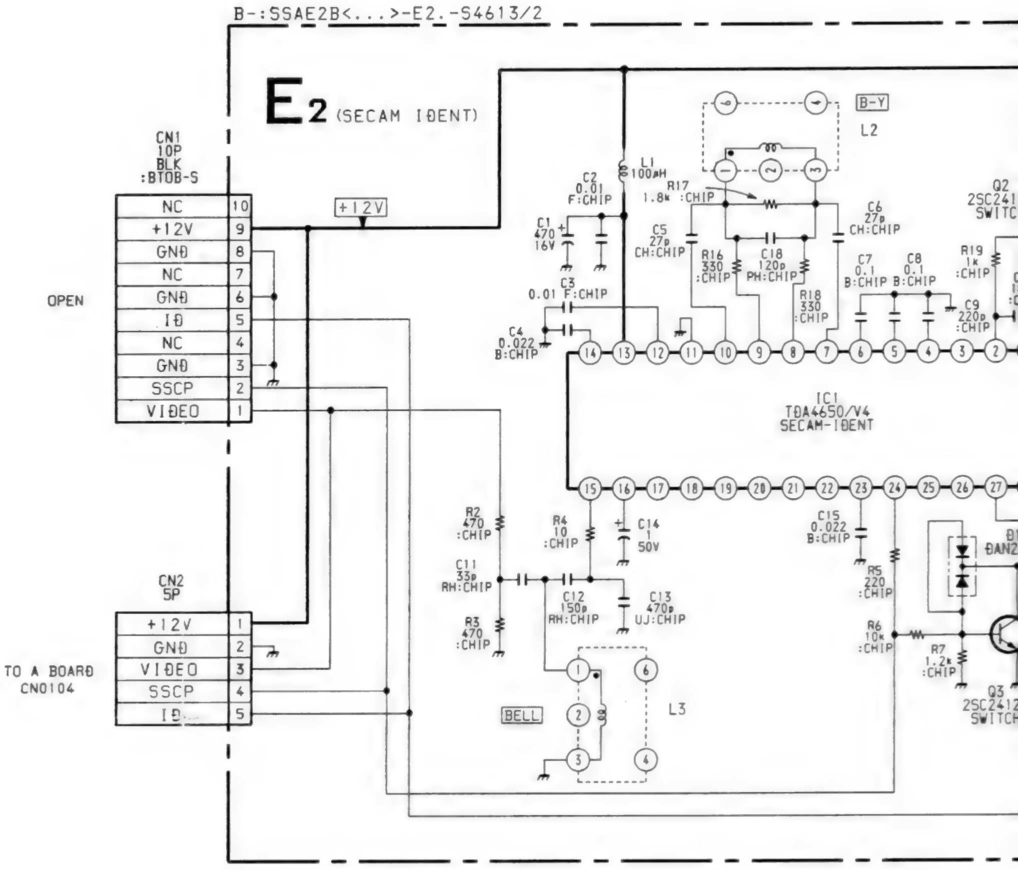
D BOARD IC902 CXA1268P

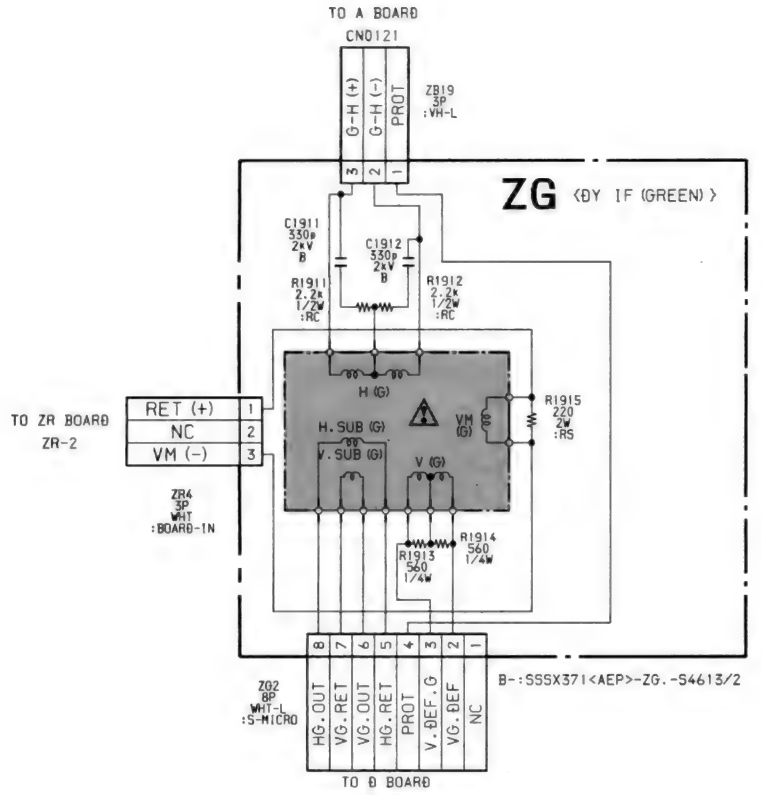

H
V
d/dt
SET
Flip Flop
RESET
COMP
CLAMP PULSE
X²
DC Offset DET.
AMP
DUTY DET.
Inverter
H.Saw (+)
H.Saw (-)
H.Para (+)
H.Para (-)
H, V SW PULSE
I REF.
REF.DC
MULTIPLIER
MULTIPLIER
MULTIPLIER
MULTIPLIER
PEAK DET
V.Saw (-)
V.Saw (+)
V.Para (-)
V.Para (+)
Vcc
VEE
V.GND
H.GND
NC

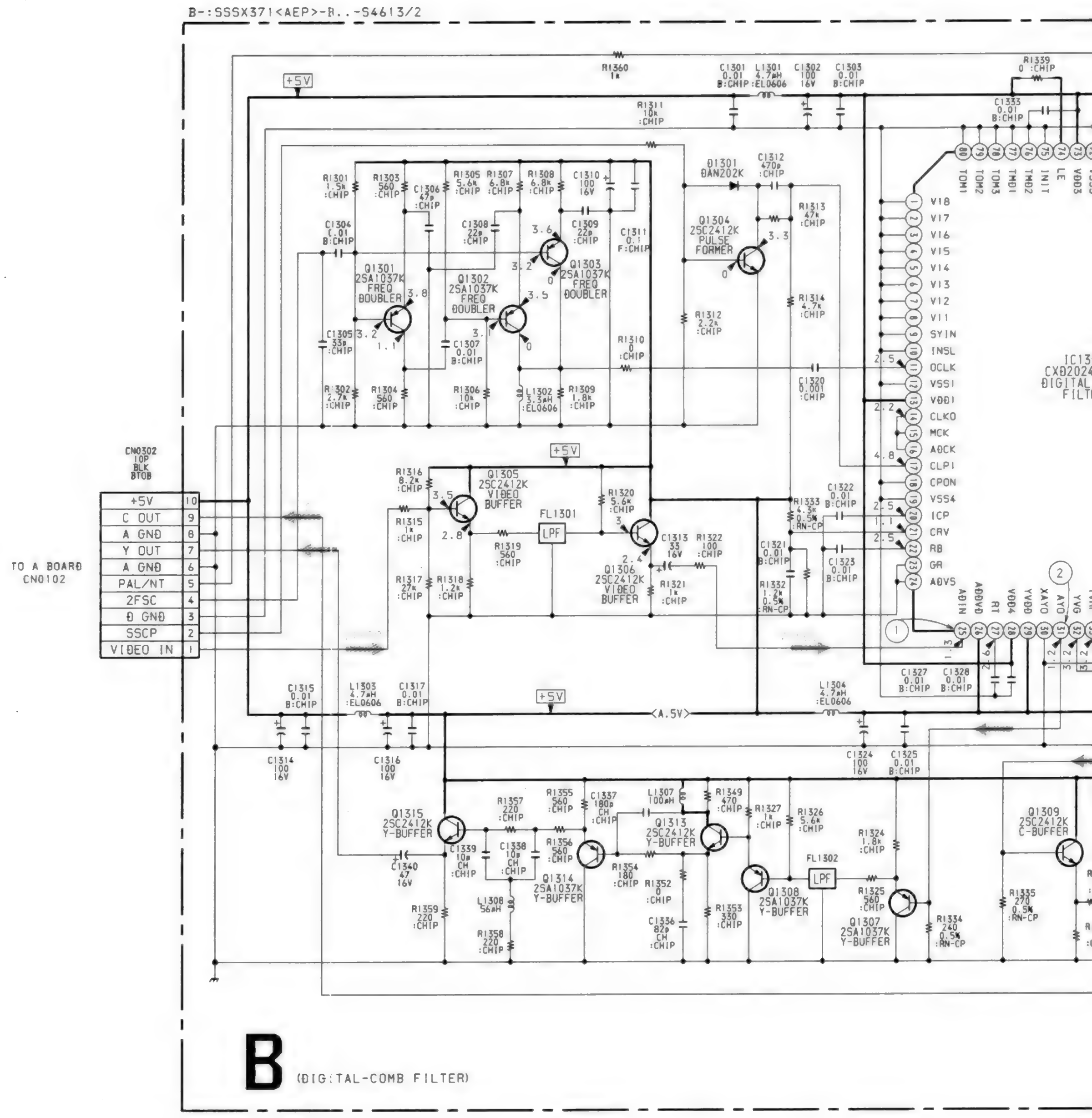
WAVEFORMS D BOARD

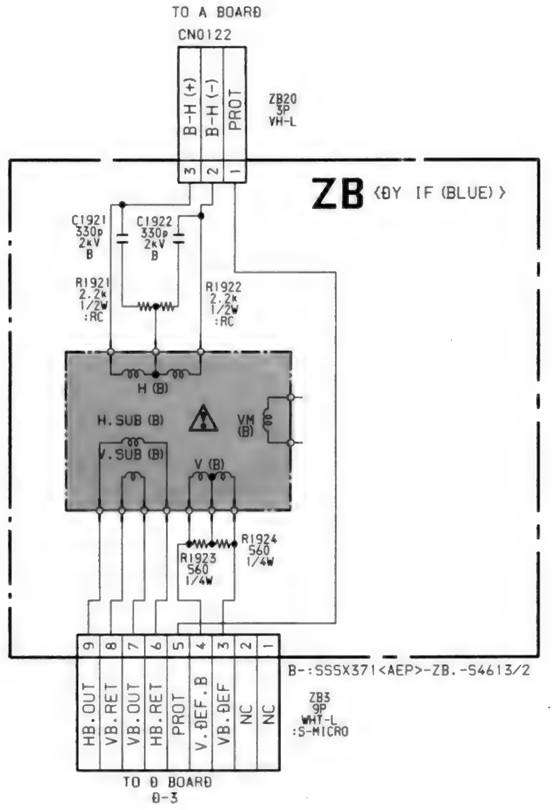

① 6.4Vp-p (V)
② 5 Vp-p (H)
③ 2.5Vp-p (H)
④ 2.6Vp-p (H)
⑤ 2.2 Vp-p (V)
⑥ 4.4Vp-p (H)
⑦ 2.2Vp-p (V)
⑧ 2.1Vp-p (H)
⑨ 4 Vp-p (H)
⑩ 4 Vp-p (V)
⑪ 2.1Vp-p (V)
⑫ 2.1Vp-p (V)
⑬ 2.2Vp-p (H)
⑭ 2.4Vp-p (V)
⑮ 1.8Vp-p (V)
⑯ 2.2Vp-p (H)
⑰ 1.3Vp-p (V)
⑱ 2.1Vp-p (V)
⑲ 2.3Vp-p (H)
⑳ 1.4Vp-p (V)
㉑ 1.9Vp-p (V)
㉒ 6.6Vp-p (V)
㉓ 2.6 Vp-p (V)
㉔ 0.45Vp-p (V)
㉕ 2.8Vp-p (H)
㉖ 2.4Vp-p (V)
㉗ 32 Vp-p (V)
㉘ 28 Vp-p (H)
㉙ 27 Vp-p (V)
㉚ 14 Vp-p (H)
㉛ 28 Vp-p (V)
㉜ 28 Vp-p (H)
㉝ 1.2Vp-p ( )
㉞ 49 Vp-p (V)
㉟ 1Vp-p(0.02USEC)
㊱ 3 Vp-p (V)
㊲ 3 Vp-p (V)

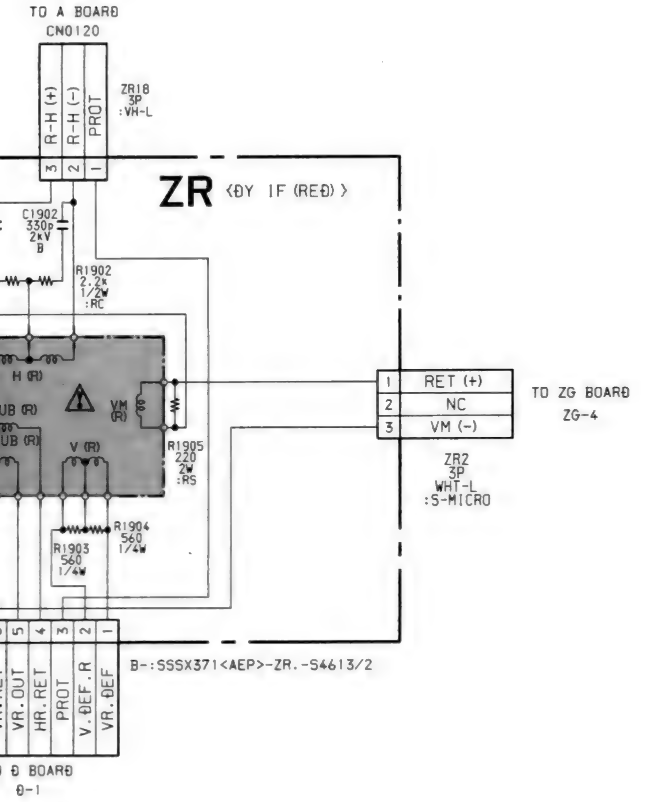

TO A BOARD
CN0120
R-H (+)
R-H (-)
PROT
ZR18
3P
:VH-L
ZR
(DY IF (RED))
C1901
330p
2kV
B
C1902
330p
2kV
B
R1901
2.2k
1/2W
:RC
R1902
2.2k
1/2W
:RC
H (R)
H.SUB (R)
V.SUB (R)
V (R)
VM (R)
R1905
220
2W
:RS
R1904
560
1/4W
R1903
560
1/4W
TO VM BOARD
V-2
RET (-)
NC
VM (+)
ZR3
3P
WHT
BOARD-IN
RET (+)
NC
VM (-)
TO ZG BOARD
ZG-4
ZR2
3P
WHT-L
:S-MICRO
HR.OUT
VR.OUT
VR.RET
HR.RET
PROT
V.DEF.R
VR.DEF
B-:SSSX371<AEP>-ZR.-S4613/2
ZR1
7P
WHT-L
:S-MICRO
TO D BOARD
D-1

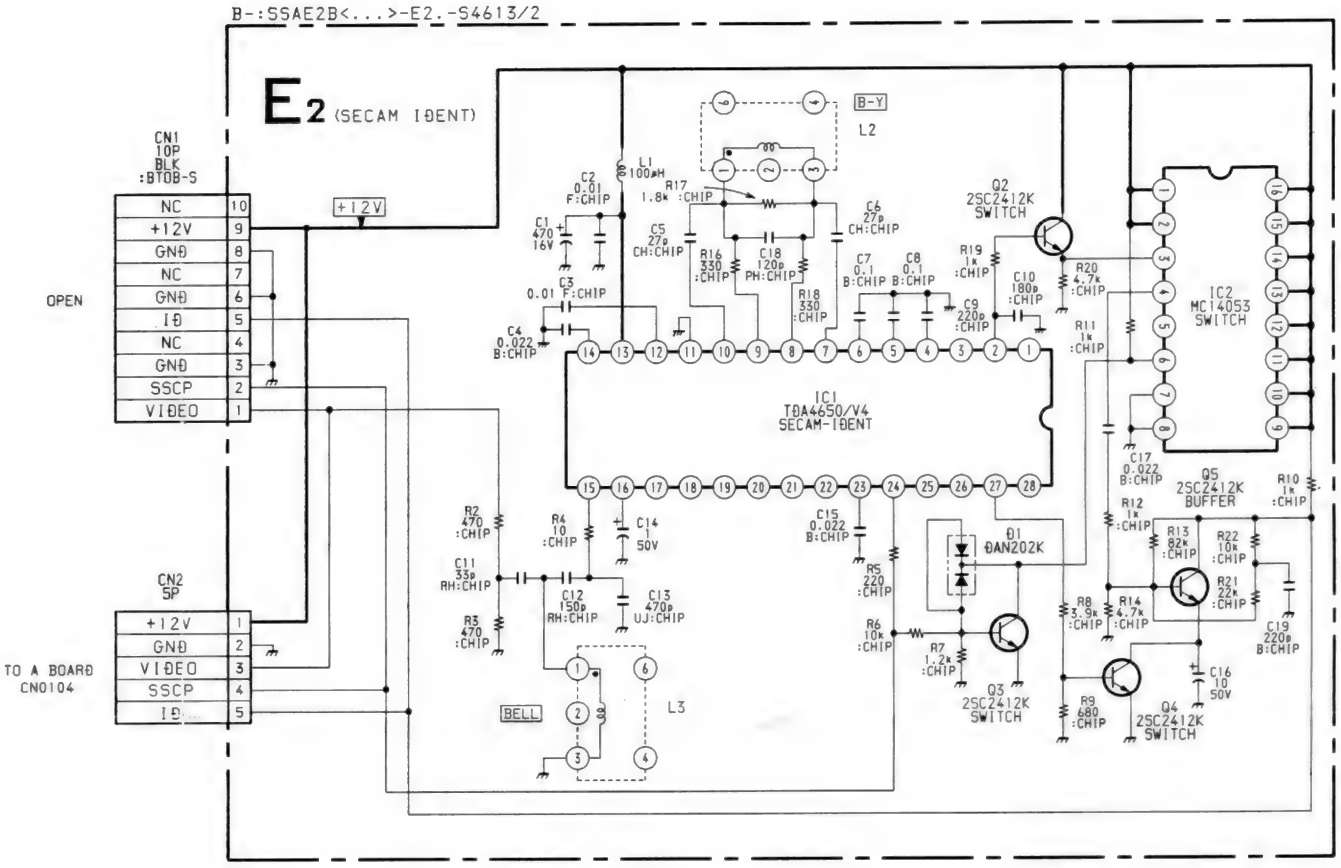

B-:SSAE2B<...>-E2.-S4613/2
E2 (SECAM IDENT)
CN1
10P
BLK
:BTOB-S
NC
+12V
GND
NC
GND
ID
NC
GND
SSCP
VIDEO
OPEN
+12V
C1
470
16V
C2
0.01
F:CHIP
L1
100μH
R17
1.8k
:CHIP
C5
27p
CH:CHIP
R16
330
:CHIP
C18
120p
PH:CHIP
R18
330
:CHIP
C6
27p
CH:CHIP
C7
0.1
B:CHIP
C8
0.1
B:CHIP
C9
220p
:CHIP
R19
1k
:CHIP
B-Y
L2
Q2
2SC241
SWITC
C3
0.01 F:CHIP
C4
0.022
B:CHIP
IC1
TDA4650/V4
SECAM-IDENT
R2
470
:CHIP
R4
10
:CHIP
C14
1
50V
C15
0.022
B:CHIP
C11
33p
RH:CHIP
C12
150p
RH:CHIP
C13
470p
UJ:CHIP
R3
470
:CHIP
R5
220
:CHIP
R6
10k
:CHIP
R7
1.2k
:CHIP
Q3
2SC241
SWITCH
CN2
5P
+12V
GND
VIDEO
SSCP
ID
TO A BOARD
CN0104
BELL
L3

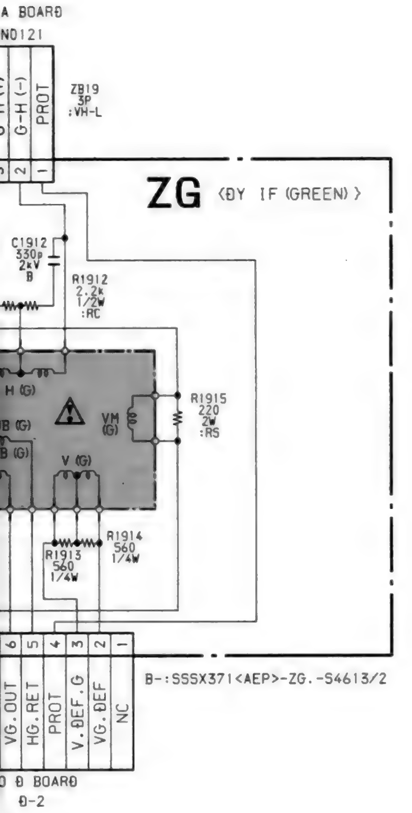

TO A BOARD
CN0121
G-H (+)
G-H (-)
PROT
ZB19
3P
:VH-L
ZG
(DY IF (GREEN))
C1911
330p
2kV
B
C1912
330p
2kV
B
R1911
2.2k
1/2W
:RC
R1912
2.2k
1/2W
:RC
H (G)
H.SUB (G)
V.SUB (G)
V (G)
VM (G)
R1915
220
2W
:RS
R1914
560
1/4W
R1913
560
1/4W
TO ZR BOARD
ZR-2
RET (+)
NC
VM (-)
ZR4
3P
WHT
:BOARD-IN
HG.OUT
VG.RET
VG.OUT
HG.RET
PROT
V.DEF.G
VG.DEF
NC
B-:SSSX371<AEP>-ZG.-S4613/2
ZO2
8P
WHT-L
:S-MICRO
TO D BOARD
D-2

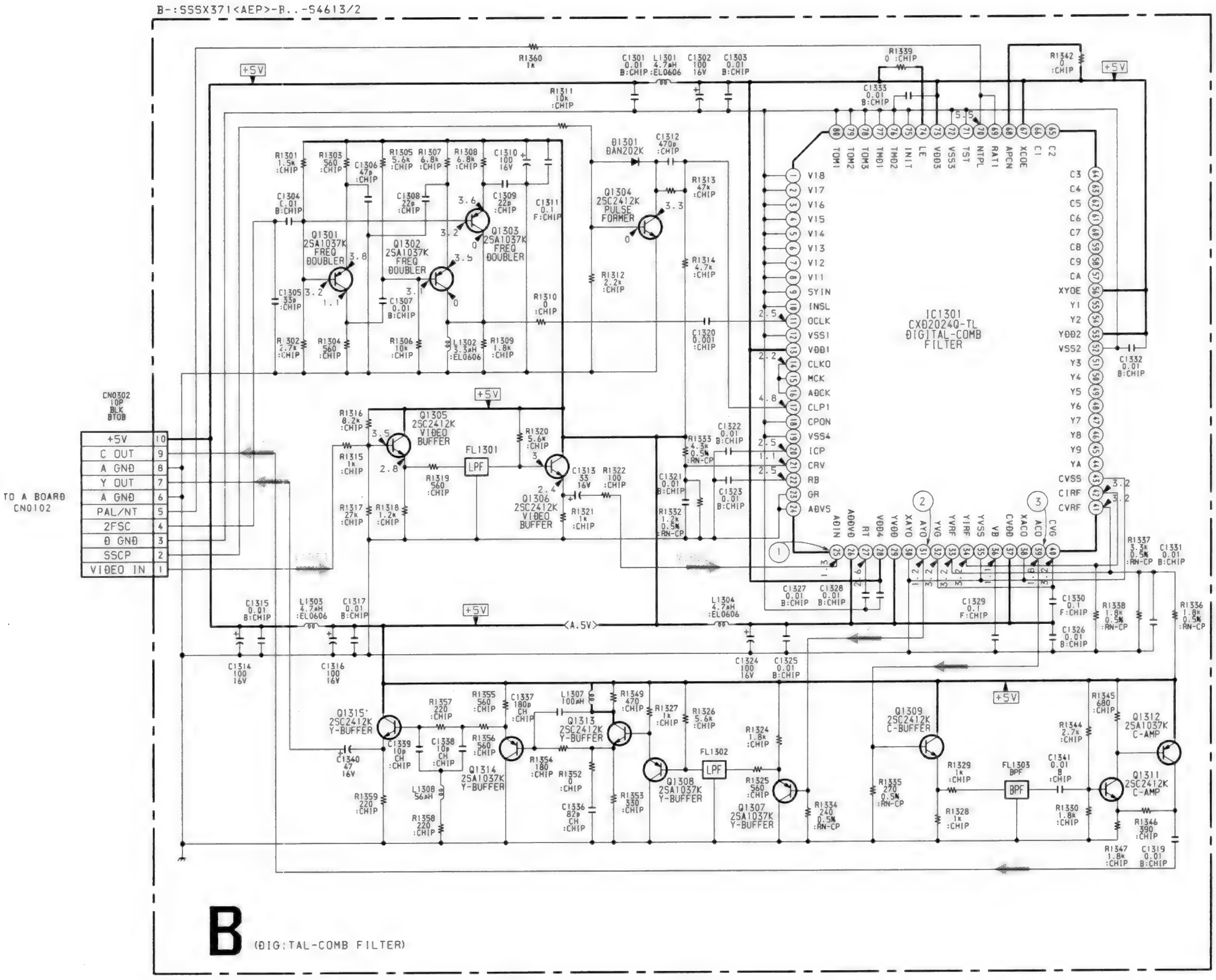

B-:SSSX371<AEP>-B..-S4613/2
+5V
R1360
1k
C1301
0.01
B:CHIP
L1301
4.7μH
:EL0606
C1302
100
16V
C1303
0.01
B:CHIP
R1339
0 :CHIP
C1333
0.01
B:CHIP
R1311
10k
:CHIP
Q1301
BAN202K
C1312
470p
:CHIP
Q1304
2SC2412K
PULSE
FORMER
R1313
47k
:CHIP
R1314
4.7k
:CHIP
Q1301
2SA1037K
FREQ
DOUBLER
Q1302
2SA1037K
FREQ
DOUBLER
Q1303
2SA1037K
FREQ
DOUBLER
R1312
2.2k
:CHIP
R1310
0
:CHIP
C1320
0.001
:CHIP
L1302
3.3mH
:EL0606
CN0302
10P
BLK
BTOB
+5V
C OUT
A GND
Y OUT
A GND
PAL/NT
2FSC
D GND
SSCP
VIDEO IN
TO A BOARD
CN0102
Q1305
2SC2412K
VIDEO
BUFFER
FL1301
LPF
Q1306
2SC2412K
VIDEO
BUFFER
R1333
4.3k
0.5%
RN-CP
C1322
0.01
B:CHIP
IC13
CXD2024
DIGITAL
FILT
V18
V17
V16
V15
V14
V13
V12
V11
SYIN
INSL
OCLK
VSS1
VDD1
CLKO
MCK
ADCK
CLPI
CPON
VSS4
ICP
CRV
RB
GR
ADVS
TOM1
TOM2
TOM3
TMD1
TMD2
INIT
LE
VDD5
<A.5V>
C1315
0.01
B:CHIP
L1303
4.7μH
:EL0606
C1317
0.01
B:CHIP
C1314
100
16V
C1316
100
16V
L1304
4.7μH
:EL0606
C1324
100
16V
C1325
0.01
B:CHIP
Q1315
2SC2412K
Y-BUFFER
Q1314
2SA1037K
Y-BUFFER
Q1313
2SC2412K
Y-BUFFER
Q1308
2SA1037K
Y-BUFFER
Q1307
2SA1037K
Y-BUFFER
FL1302
LPF
Q1309
2SC2412K
C-BUFFER
L1307
100μH
L1308
56μH
B
(DIGITAL-COMB FILTER)

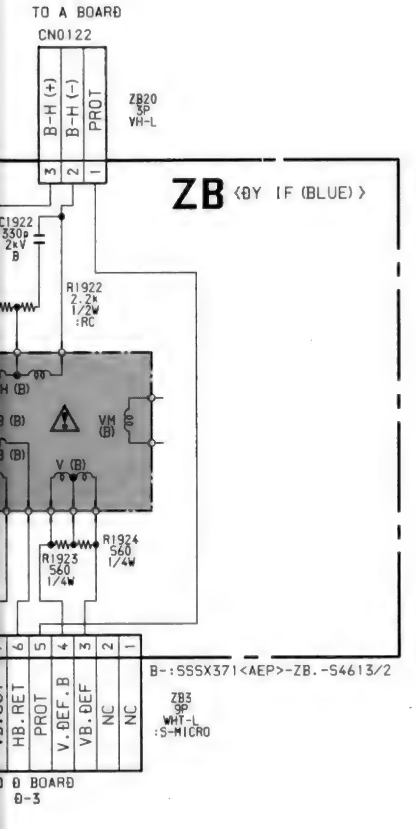

TO A BOARD
CN0122
B-H (+)
B-H (-)
PROT
ZB20
3P
VH-L
ZB
(DY IF (BLUE))
C1921
330p
2kV
B
C1922
330p
2kV
B
R1921
2.2k
1/2W
:RC
R1922
2.2k
1/2W
:RC
H (B)
H.SUB (B)
V.SUB (B)
V (B)
VM (B)
R1924
560
1/4W
R1923
560
1/4W
HB.OUT
VB.RET
VB.OUT
HB.RET
PROT
V.DEF.B
VB.DEF
NC
NC
B-:SSSX371<AEP>-ZB.-S4613/2
ZB3
9P
WHT-L
:S-MICRO
TO D BOARD
D-3

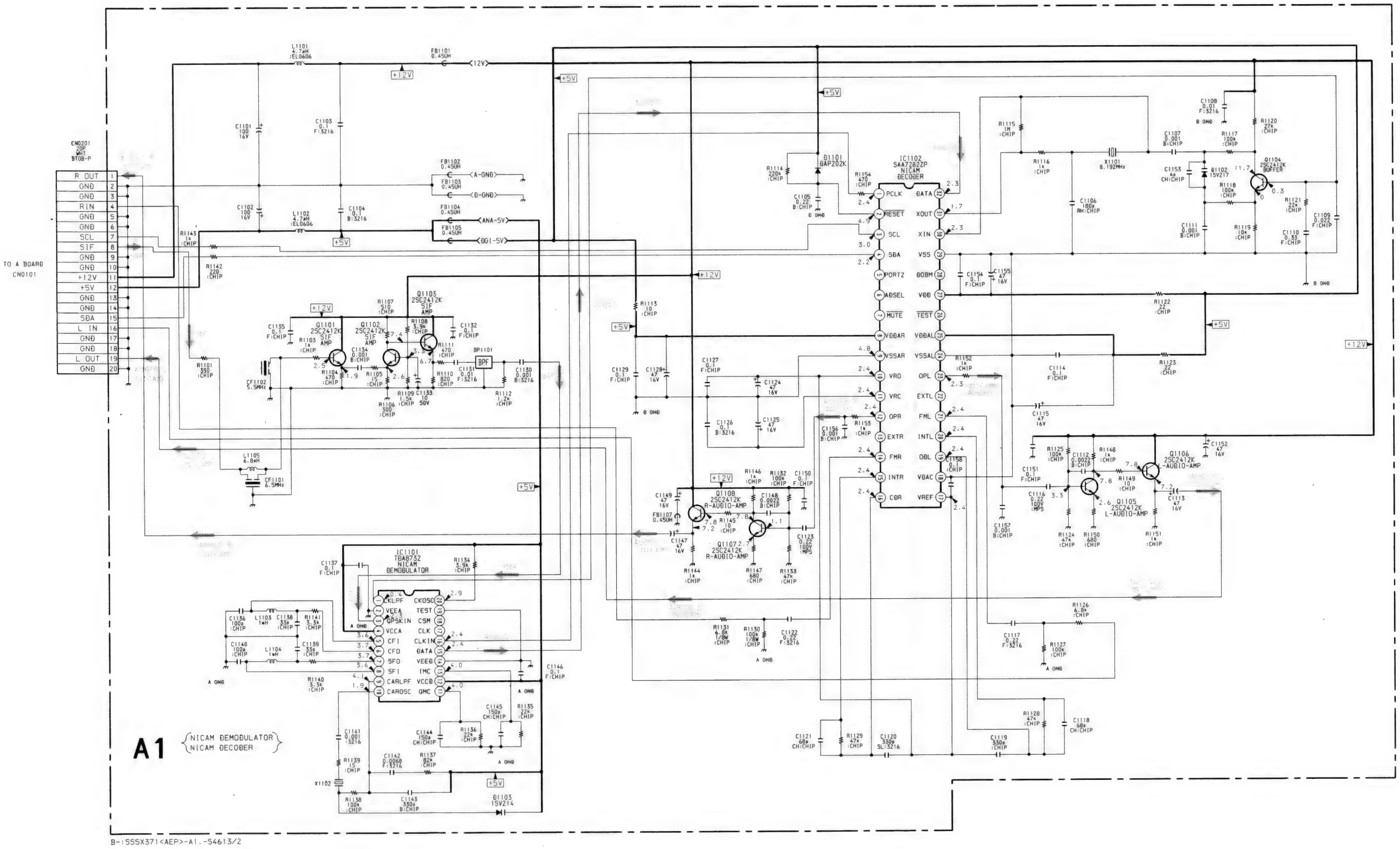

TO A BOARD
CN0120
ZR18
3P
:VH-L
R-H(+)
R-H(-)
PROT
ZR (DY IF (RED))
C1902
330p
2kV
B
R1902
2.2k
1/2W
:RC
R1905
220
2W
:RS
R1904
560
1/4W
R1903
560
1/4W
RET (+)
NC
VM (-)
TO ZG BOARD
ZG-4
ZR2
3P
WHT-L
:S-MICRO
VR.OUT
HR.RET
PROT
V.DEF.R
VR.DEF
B-:SSSX371<AEP>-ZR.-S4613/2
D BOARD
D-1


B-:SSAE2B<...>-E2.-S4613/2
E2 (SECAM IDENT)
CN1
10P
BLK
:BTOB-S
NC
+12V
GND
NC
GND
ID
NC
GND
SSCP
VIDEO
OPEN
+12V
CN2
5P
+12V
GND
VIDEO
SSCP
ID
TO A BOARD
CN0104
B-Y
L2
L1
100μH
R17
1.8k :CHIP
C2
0.01
F:CHIP
C1
470
16V
C5
27p
CH:CHIP
R16
330
:CHIP
C18
120p
PH:CHIP
C6
27p
CH:CHIP
R18
330
:CHIP
C7
0.1
B:CHIP
C8
0.1
B:CHIP
C9
220p
:CHIP
C3
0.01 F:CHIP
C4
0.022
B:CHIP
Q2
2SC2412K
SWITCH
R19
1k
:CHIP
C10
180p
:CHIP
R20
4.7k
:CHIP
R11
1k
:CHIP
IC2
MC14053
SWITCH
IC1
TDA4650/V4
SECAM-IDENT
C17
0.022
B:CHIP
Q5
2SC2412K
BUFFER
R10
1k
:CHIP
R12
1k
:CHIP
R13
82k
:CHIP
R22
10k
:CHIP
R21
22k
:CHIP
C19
220p
B:CHIP
R2
470
:CHIP
R4
10
:CHIP
C14
1
50V
C15
0.022
B:CHIP
D1
DAN202K
R5
220
:CHIP
C11
33p
RH:CHIP
C12
150p
RH:CHIP
C13
470p
UJ:CHIP
R3
470
:CHIP
R6
10k
:CHIP
R7
1.2k
:CHIP
Q3
2SC2412K
SWITCH
R8
3.9k
:CHIP
R14
4.7k
:CHIP
R9
680
:CHIP
Q4
2SC2412K
SWITCH
C16
10
50V
BELL
L3


A BOARD
CN0121
ZB19
3P
:VH-L
G-H(-)
PROT
ZG (DY IF (GREEN))
C1912
330p
2kV
B
R1912
2.2k
1/2W
:RC
R1915
220
2W
:RS
R1913
560
1/4W
R1914
560
1/4W
VG.OUT
HG.RET
PROT
V.DEF.G
VG.DEF
NC
B-:SSSX371<AEP>-ZG.-S4613/2
D BOARD
D-2

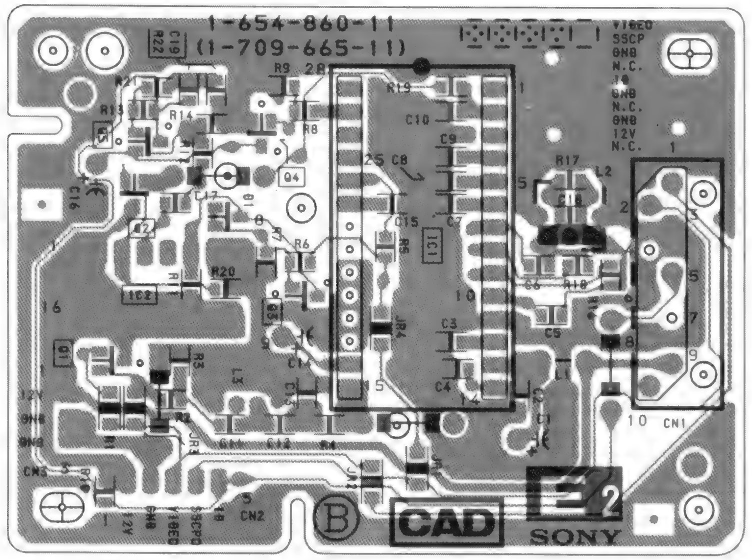

B-:SSSX371<AEP>-B..-S4613/2
+5V
CN0302
10P
BLK
BTOB
+5V
C OUT
A GND
Y OUT
A GND
PAL/NT
2FSC
D GND
SSCP
VIDEO IN
TO A BOARD
CN0102
R1360
1k
R1311
10k
:CHIP
C1301
0.01
B:CHIP
L1301
4.7μH
:EL0606
C1302
100
16V
C1303
0.01
B:CHIP
R1339
0
:CHIP
C1335
0.01
B:CHIP
R1342
0
:CHIP
Q1301
2SA1037K
FREQ
DOUBLER
Q1302
2SA1037K
FREQ
DOUBLER
Q1303
2SA1037K
FREQ
DOUBLER
D1301
DAN202K
C1312
470p
:CHIP
Q1304
2SC2412K
PULSE
FORMER
Q1305
2SC2412K
VIDEO
BUFFER
FL1301
LPF
Q1306
2SC2412K
VIDEO
BUFFER
IC1301
CXD2024Q-TL
DIGITAL-COMB
FILTER
L1303
4.7μH
:EL0606
L1304
4.7μH
:EL0606
<A.5V>
Q1315
2SC2412K
Y-BUFFER
Q1314
2SA1037K
Y-BUFFER
Q1313
2SC2412K
Y-BUFFER
Q1308
2SA1037K
Y-BUFFER
FL1302
LPF
Q1307
2SA1037K
Y-BUFFER
Q1309
2SC2412K
C-BUFFER
FL1303
BPF
Q1312
2SA1037K
C-AMP
Q1311
2SC2412K
C-AMP
L1307
100μH
L1308
56μH
B (DIGITAL-COMB FILTER)


TO A BOARD
CN0122
ZB20
3P
VH-L
B-H(+)
B-H(-)
PROT
ZB (DY IF (BLUE))
C1922
330p
2kV
B
R1922
2.2k
1/2W
:RC
R1924
560
1/4W
R1923
560
1/4W
HB.RET
PROT
V.DEF.B
VB.DEF
NC
NC
B-:SSSX371<AEP>-ZB.-S4613/2
ZB3
9P
WHT-L
:S-MICRO
D BOARD
D-3

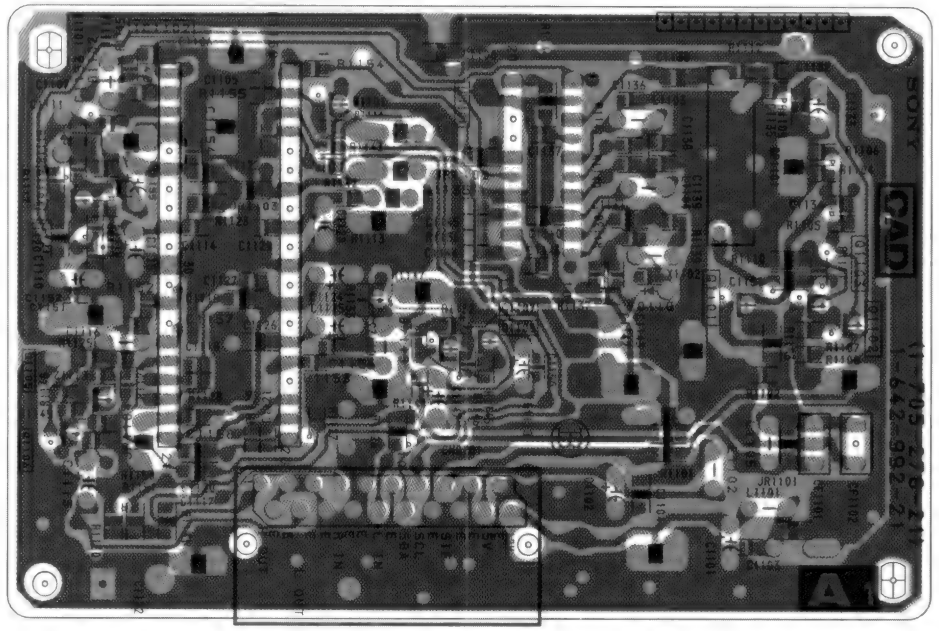

A1
NICAM DEMODULATOR
NICAM DECODER
TO A BOARD CN0101
CN0201 20P WHT BTOB-P
R OUT 1
GND 2
GND 3
RIN 4
GND 5
GND 6
SCL 7
SIF 8
GND 9
GND 10
+12V 11
+5V 12
GND 13
GND 14
SDA 15
L IN 16
GND 17
GND 18
L OUT 19
GND 20
L1101 4.7μH :EL0606
FB1101 0.45UH
+12V
C1101 100 16V
C1103 0.1 F:3216
C1102 100 16V
L1102 4.7μH :EL0606
C1104 0.1 B:3216
+5V
FB1102 0.45UH
A-GND
FB1103 0.45UH
D-GND
FB1104 0.45UH
ANA-5V
FB1105 0.45UH
DGI-5V
R1143 1k :CHIP
R1142 220 :CHIP
R1101 390 :CHIP
Q1101 2SC2412K SIF AMP
Q1102 2SC2412K SIF AMP
Q1103 2SC2412K SIF AMP
R1107 510 :CHIP
R1108 3.9k :CHIP
C1135 0.1 F:CHIP
R1103 1k :CHIP
C1134 0.001 B:CHIP
R1111 470 :CHIP
C1132 0.1 F:CHIP
BP1101
BPF
R1104 470 :CHIP
R1105 15 :CHIP
R1106 300 :CHIP
R1109 1.5k :CHIP
C1133 10 50V
R1110 820 :CHIP
C1131 0.01 F:3216
C1130 0.001 B:3216
R1112 1.2k :CHIP
CF1102 5.5MHz
L1105 6.8μH
CF1101 6.5MHz
R1113 10 :CHIP
C1129 0.1 F:CHIP
C1128 47 16V
D GND
C1127 0.1 F:CHIP
C1124 47 16V
C1126 0.1 B:3216
C1125 47 16V
D1101 DAP202K
R1114 220k :CHIP
C1105 0.22 B:CHIP
D GND
R1154 470 :CHIP
IC1102 SAA7282ZP NICAM DECODER
PCLK
RESET
SCL
SDA
PORT2
ADSEL
MUTE
VDDAR
VSSAR
VRO
VRC
OPR
EXTR
FMR
INTR
CDR
DATA
XOUT
XIN
VSS
DDBM
VDD
TEST
VDDAL
VSSAL
OPL
EXTL
FML
INTL
ODL
VDAC
VREF
C1154 0.1 F:CHIP
C1155 47 16V
R1152 1k :CHIP
C1156 0.001 B:CHIP
R1153 1k :CHIP
C1158 0.1 :CHIP
C1157 0.001 B:CHIP
R1115 1M :CHIP
R1116 1k :CHIP
X1101 8.192MHz
C1106 180p RH:CHIP
C1108 0.01 F:3216
D GND
C1107 0.001 B:CHIP
R1117 100k :CHIP
R1120 27k :CHIP
Q1104 2SC2412K BUFFER
C1153 4p CH:CHIP
D1102 1SV217
R1118 100k :CHIP
C1111 0.001 B:CHIP
R1119 10k :CHIP
R1121 22k :CHIP
C1110 0.33 F:CHIP
C1109 0.022 F:CHIP
D GND
R1122 22 :CHIP
R1123 22 :CHIP
C1114 0.1 F:CHIP
C1115 47 16V
+12V
Q1105 2SC2412K L-AUDIO-AMP
Q1106 2SC2412K L-AUDIO-AMP
R1125 100k :CHIP
C1112 0.0022 B:CHIP
R1148 1k :CHIP
R1149 10 :CHIP
C1151 0.1 F:CHIP
C1116 0.22 100V :MPS
C1113 47 16V
C1152 47 16V
R1124 47k :CHIP
R1150 680 :CHIP
R1151 1k :CHIP
Q1108 2SC2412K R-AUDIO-AMP
Q1107 2SC2412K R-AUDIO-AMP
C1149 47 16V
FB1107 0.45UH
C1147 47 16V
R1146 1k :CHIP
R1132 100k :CHIP
C1148 0.0022 B:CHIP
C1150 0.1 F:CHIP
R1145 10 :CHIP
C1123 0.22 100V :MPS
R1144 1k :CHIP
R1147 680 :CHIP
R1133 47k :CHIP
R1131 6.8k 1/8W :CHIP
R1130 100k 1/8W :CHIP
C1122 0.22 F:3216
A GND
R1126 6.8k :CHIP
C1117 0.22 F:3216
R1127 100k :CHIP
A GND
C1121 68p CH:CHIP
R1129 47k :CHIP
C1120 330p SL:3216
C1119 330p :CHIP
R1128 47k :CHIP
C1118 68p CH:CHIP
IC1101 TDA8732 NICAM DEMODULATOR
CKLPF
VEEA
QPSKIN
VCCA
CFI
CFO
SFO
SFI
CARLPF
CAROSC
CKOSC
TEST
CSM
CLK
CLKIN
DATA
VEED
IMC
VCCD
QMC
C1137 0.1 F:CHIP
R1134 3.9k :CHIP
C1136 100p :CHIP
L1103 1mH
C1138 33p :CHIP
R1141 3.3k :CHIP
C1140 100p :CHIP
L1104 1mH
C1139 33p :CHIP
R1140 3.3k :CHIP
A GND
C1146 0.1 F:CHIP
C1145 150p CH:CHIP
R1135 22k :CHIP
C1144 150p CH:CHIP
R1136 22k :CHIP
C1141 0.001 :3216
R1139 15 :CHIP
X1102
C1142 0.0068 F:3216
R1137 82k :CHIP
R1138 100k :CHIP
C1143 330p B:CHIP
D1103 1SV214
B-:SSSX371<AEP>-A1.-S4613/2

E2 [SECAM IDENT]   **B** [DIGITAL-COMB FILTER]   **A1** [NICAM DEMODULATOR NICAM DECODER]   **ZR** [DY IF (RED)]   **ZG** [DY IF (GREEN)]   **ZB** [DY IF (BLUE)]

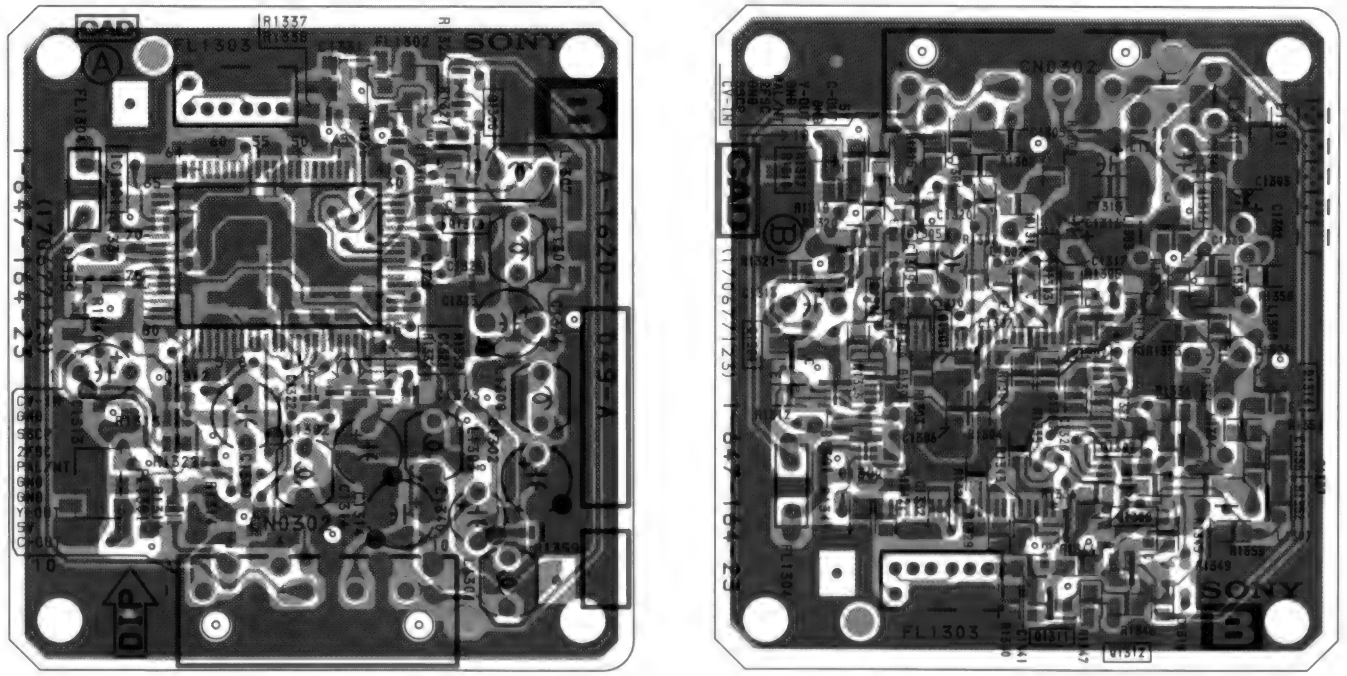
— E2 BOARD —


1-654-860-11
(1-709-665-11)
CAD
E2
SONY

— A1 BOARD —

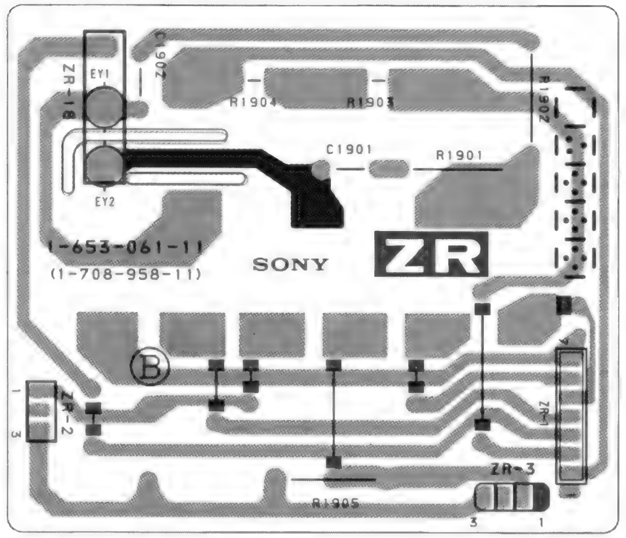


— B BOARD —

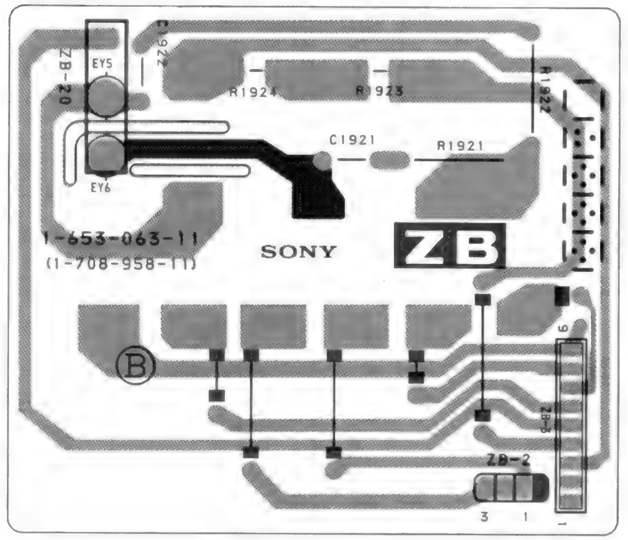

CAD
SONY
B
FL1303
CN0302

- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

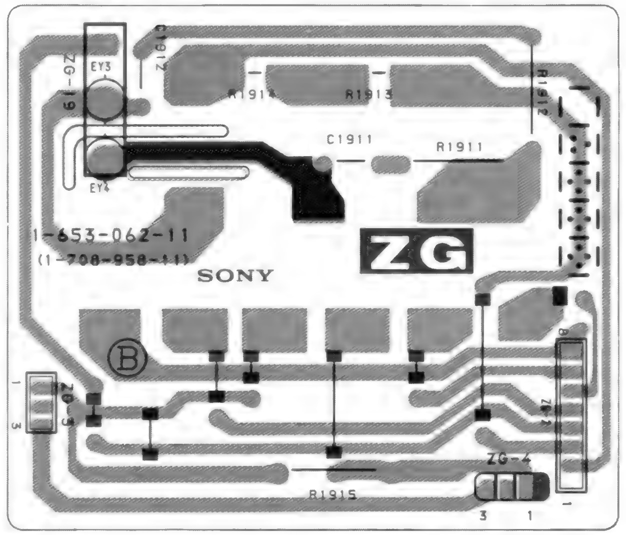
— ZR BOARD —

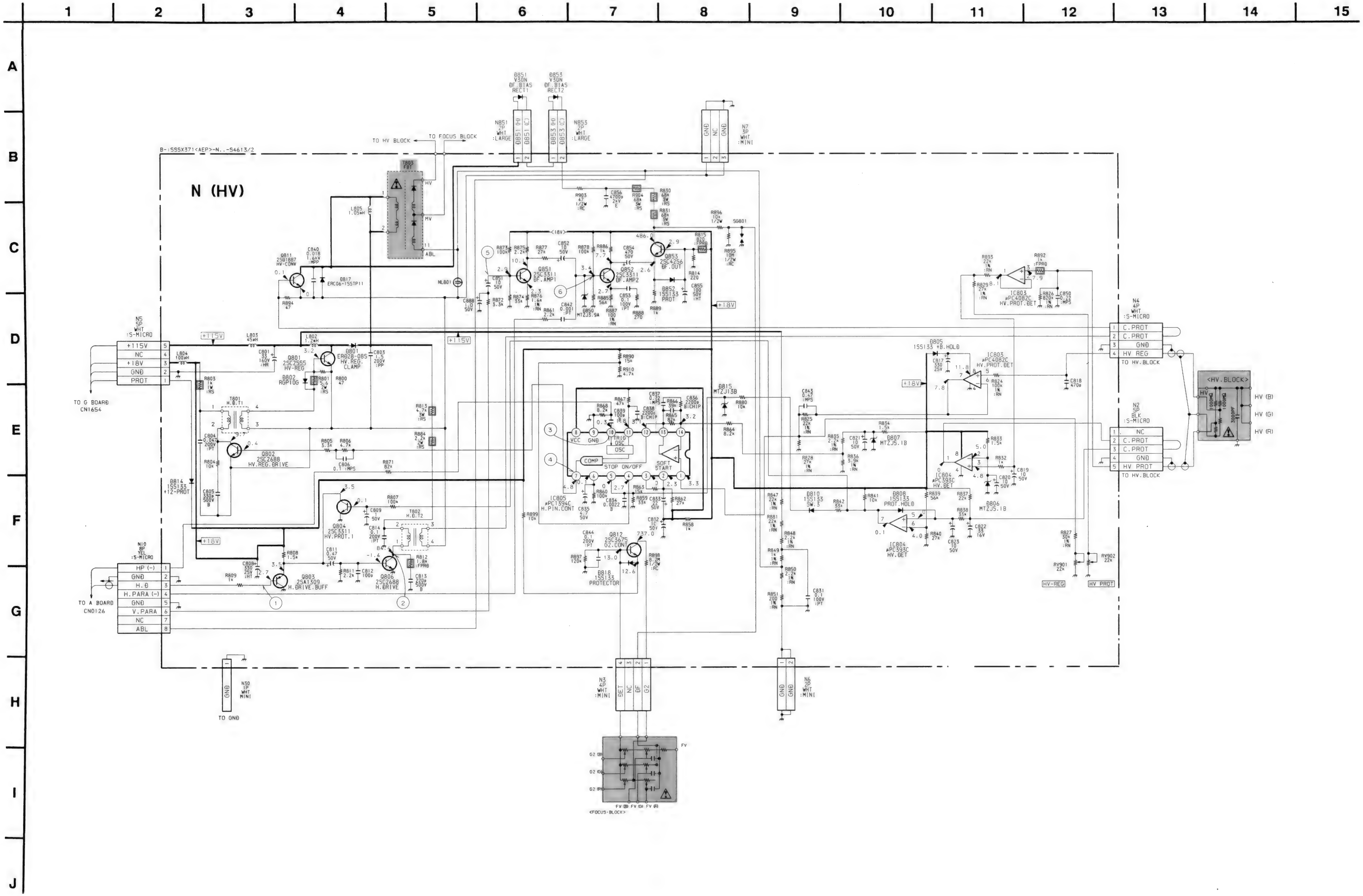

1-653-061-11
(1-708-958-11)
SONY
ZR

— ZB BOARD —

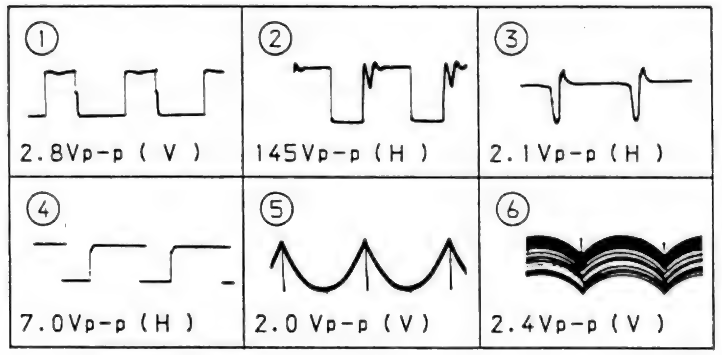

1-653-063-11
(1-708-958-11)
SONY
ZB

— ZG BOARD —


1-653-062-11
(1-708-958-11)
SONY
ZG

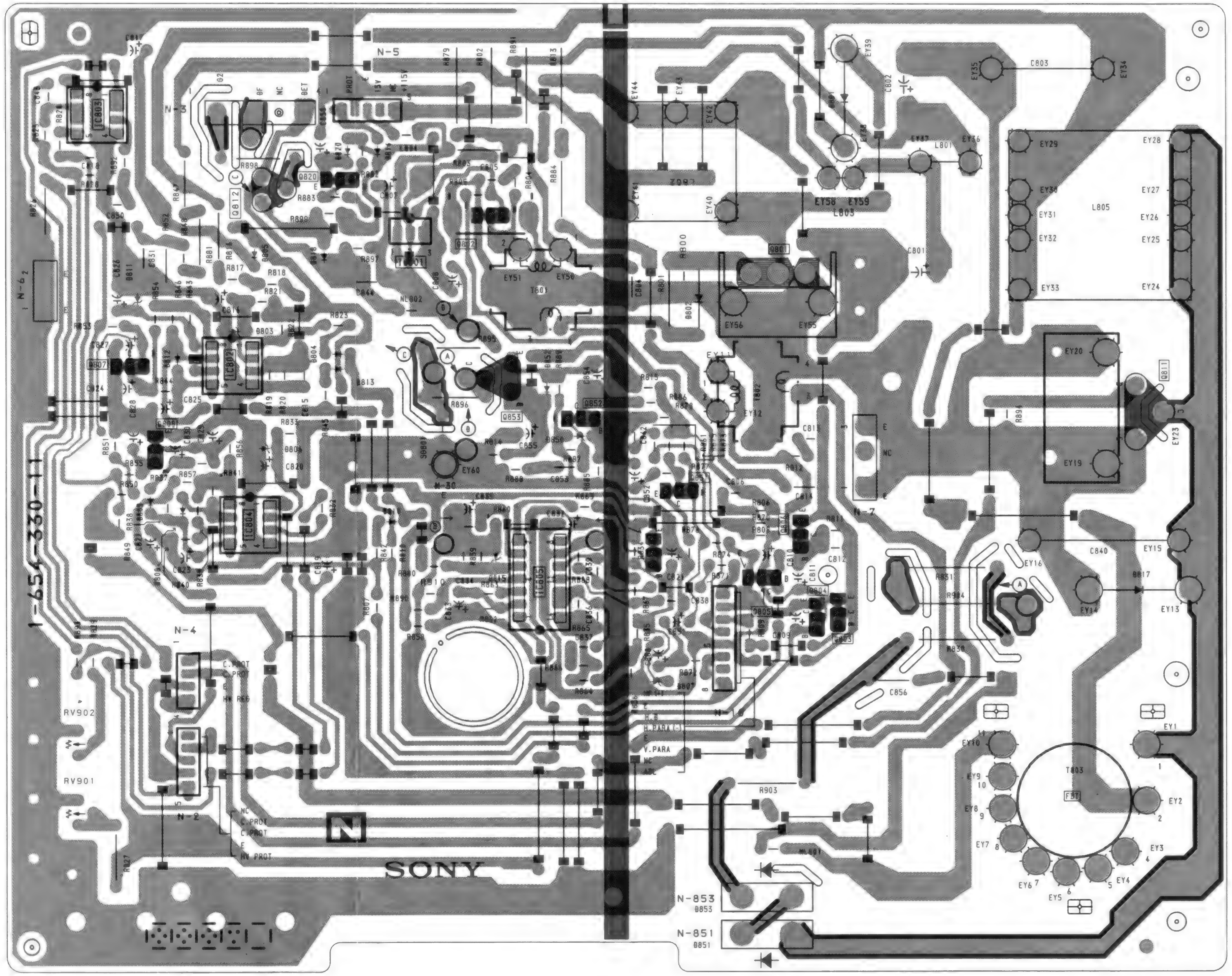

N (HV)
B-:SSSX371<AEP>-N..-S4613/2
TO HV BLOCK
TO FOCUS BLOCK
T803 FBT
HV
MV
ABL
D851 V30N DF.BIAS RECT1
D853 V30N DF.BIAS RECT2
N851 2P WHT :LARGE
N853 2P WHT :LARGE
N7 3P WHT :MINI
GND
NC
N5 5P WHT :S-MICRO
+115V
+18V
PROT
TO G BOARD CN1654
N10 8P YEL :S-MICRO
HP (-)
H.D
H.PARA (-)
V.PARA
TO A BOARD CN0126
Q811 2SD1887 HV-CONV
D817 ERC06-15STP11
Q801 2SC2555 HV-REG
D801 ERD28-085 HV.REG. CLAMP
D802 RGP10G
T801 H.D.T1
Q802 2SC2688 HV.REG.DRIVE
D814 1SS133 +12-PROT
Q804 2SC3311 HV.PROT.1
T802 H.D.T2
Q803 2SA1309 H.DRIVE.BUFF
Q806 2SC2688 H.DRIVE
Q851 2SC3311 DF.AMP1
Q852 2SC3311 DF.AMP2
Q853 2SC4256 DF.OUT
D852 1SS133 PROT
D850 MTZJ3.9A
NL801
SG801
IC805 μPC1394C H.PIN.CONT
VCC
GND
TRIG OSC
OSC
COMP
STOP ON/OFF
SOFT START
D815 MTZJ13B
Q812 2SC3675 G2.CONT
D818 1SS133 PROTECTOR
N3 4P WHT :MINI
DET
DF
G2
N6 2P WHT :MINI
N30 1P WHT MINI
TO GND
IC803 μPC4082C HV.PROT.DET
D805 1SS133 +B.HOLD
IC803 μPC4082C HV.PROT.DET
D807 MTZJ5.1B
D810 1SS133
D808 1SS133 PROT.HOLD
IC804 μPC393C HV.DET
D806 MTZJ5.1B
N4 4P WHT :S-MICRO
C.PROT
HV REG
TO HV.BLOCK
N2 5P BLK :S-MICRO
HV PROT
<HV.BLOCK>
HV (B)
HV (G)
HV (R)
RV901
RV902
HV-REG
<FOCUS-BLOCK>
FV
G2
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
A B C D E F G H I J

WAVEFORMS N BOARD



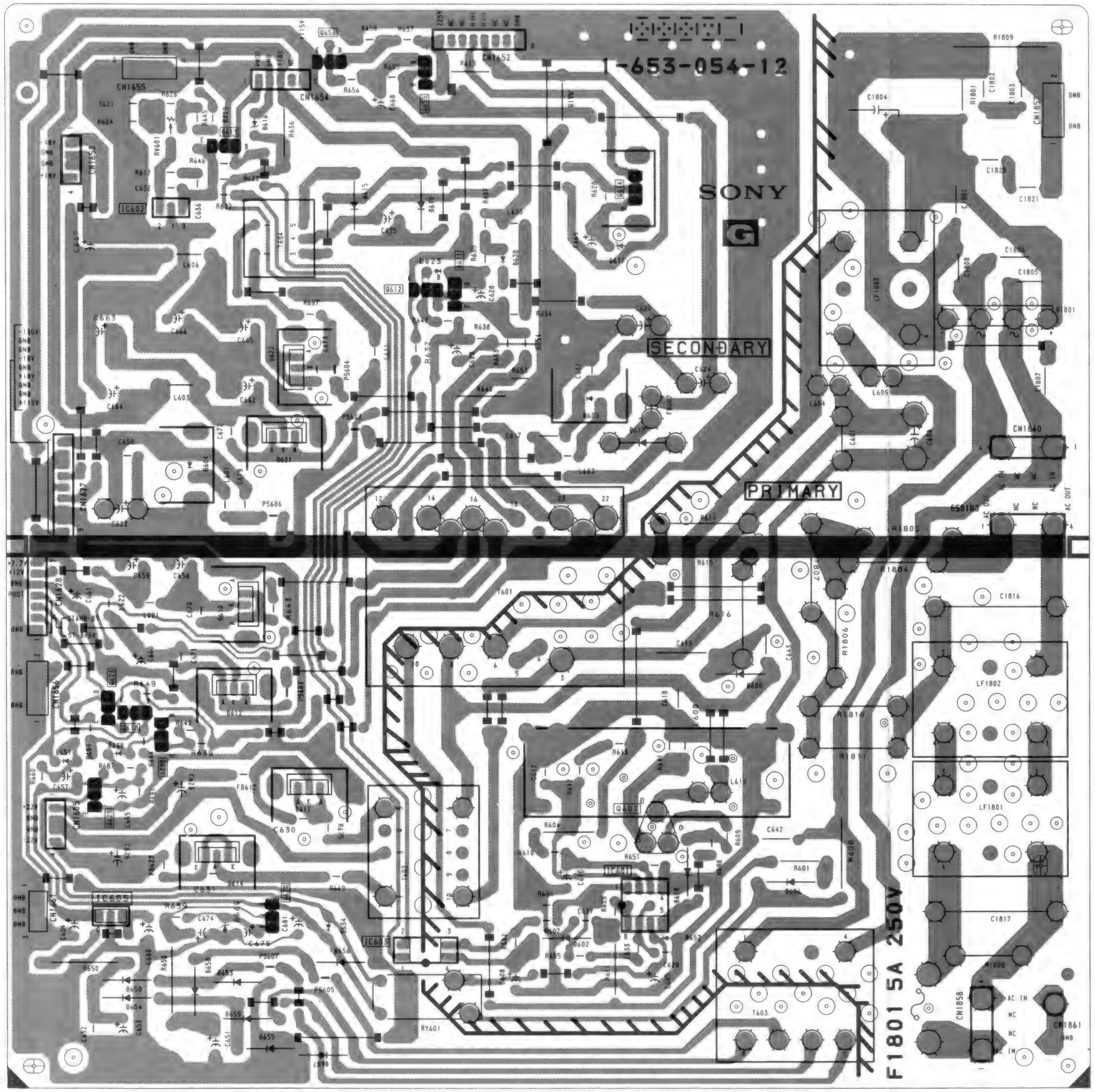
N [HV]

— N BOARD —

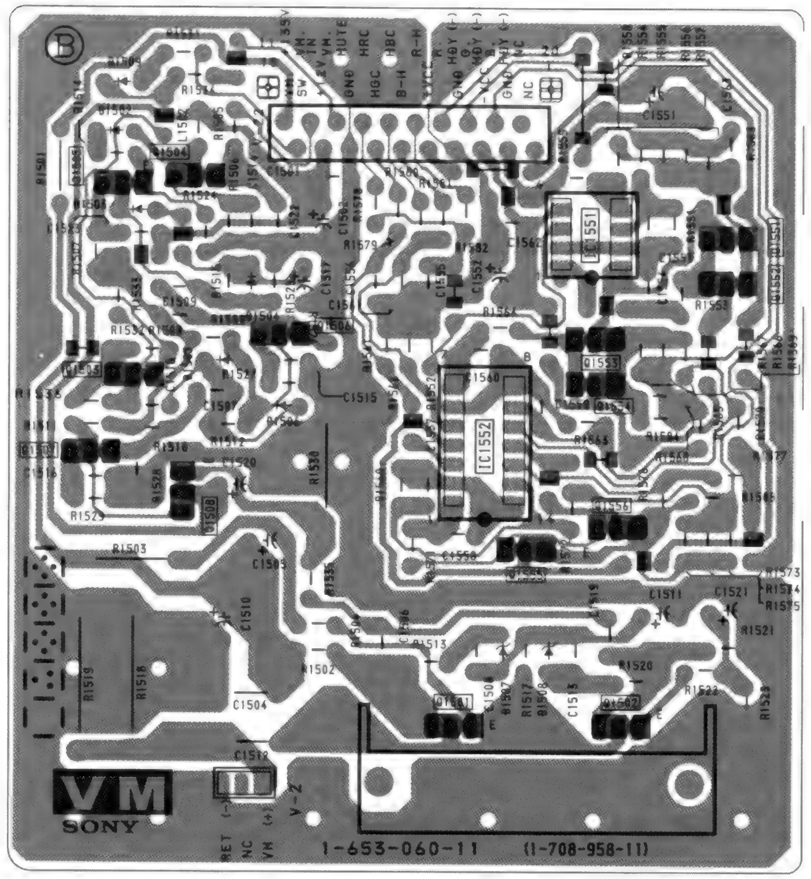

1-654-330-11
N-5
N-3
N-4
N-2
N-6
N-7
N-853
N-851
IC801
IC802
IC803
IC804
IC805
T801
T802
T803
FBT
L801
L803
L805
C803
C840
C856
RV901
RV902
R903
C.PROT
H.PROT
HV PROT
V.PARA
ABL
NC
EY1
EY2
EY3
EY4
EY5
EY6
EY7
EY8
EY9
EY10
EY13
EY14
EY15
EY16
EY19
EY20
EY23
EY24
EY25
EY26
EY27
EY28
EY29
EY30
EY31
EY32
EY33
EY34
EY35
EY39
EY40
EY41
EY42
EY43
EY44
EY51
EY55
EY56
EY58
EY59
EY60
N
SONY

G [POWER SUPPLY] **VM** [VM AMP] **DS** [H/V SIN, WAVE GEN]

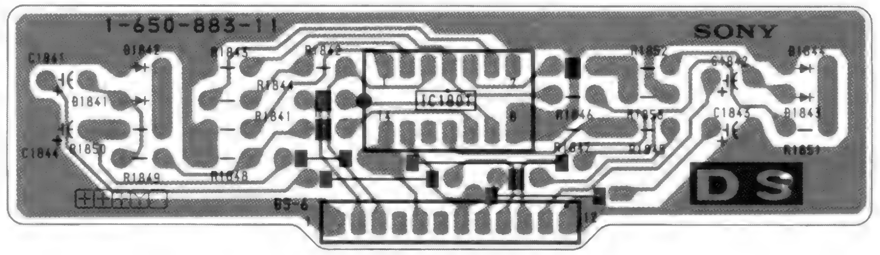
— G BOARD —

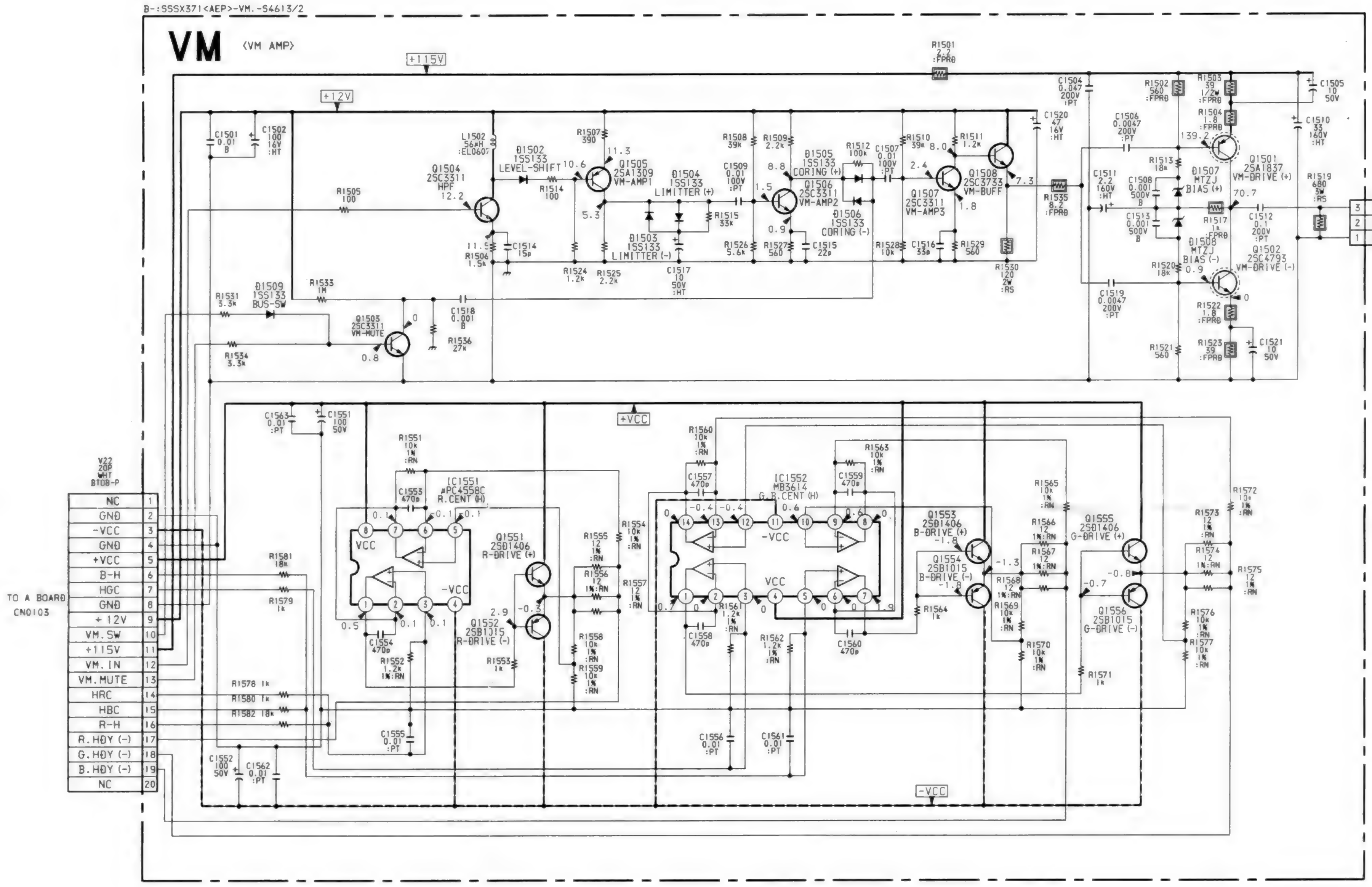

1-653-054-12
SONY
G
SECONDARY
PRIMARY
F1801 5A 250V
CN1655
CN1654
CN1652
IC602
IC605
IC603
LF1801
LF1802
CN1858
CN1861
T603
RY601

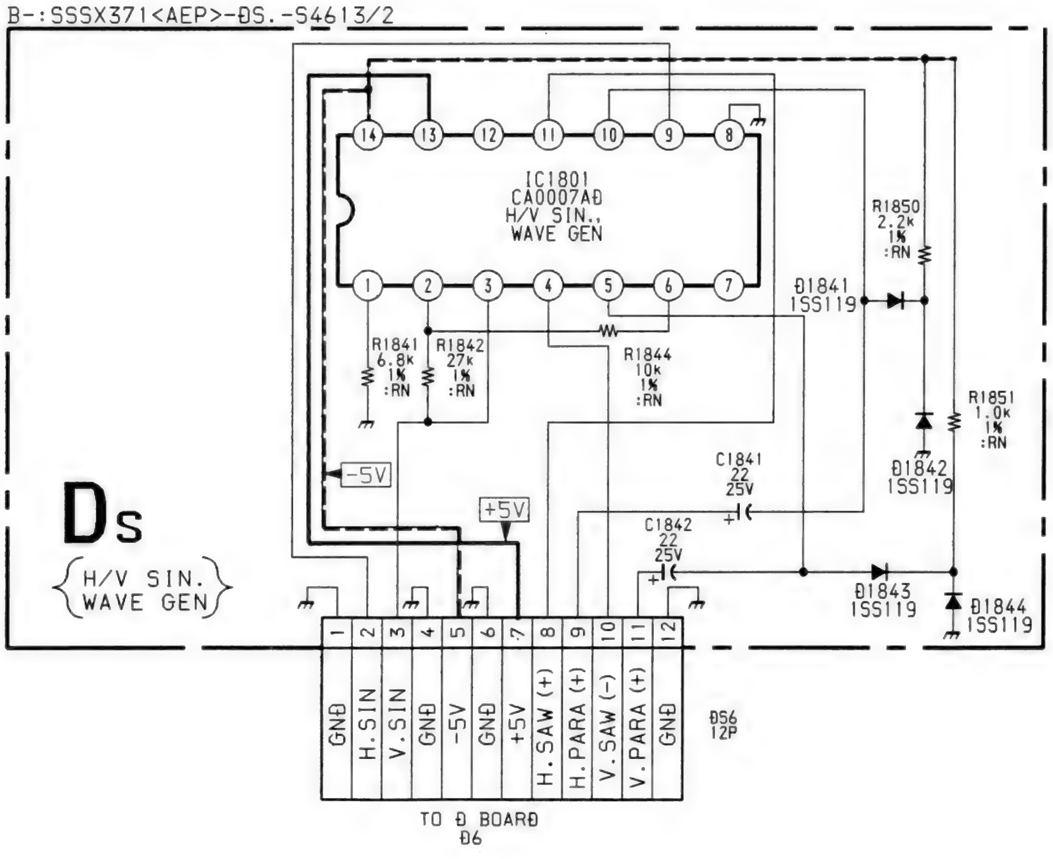
— VM BOARD —

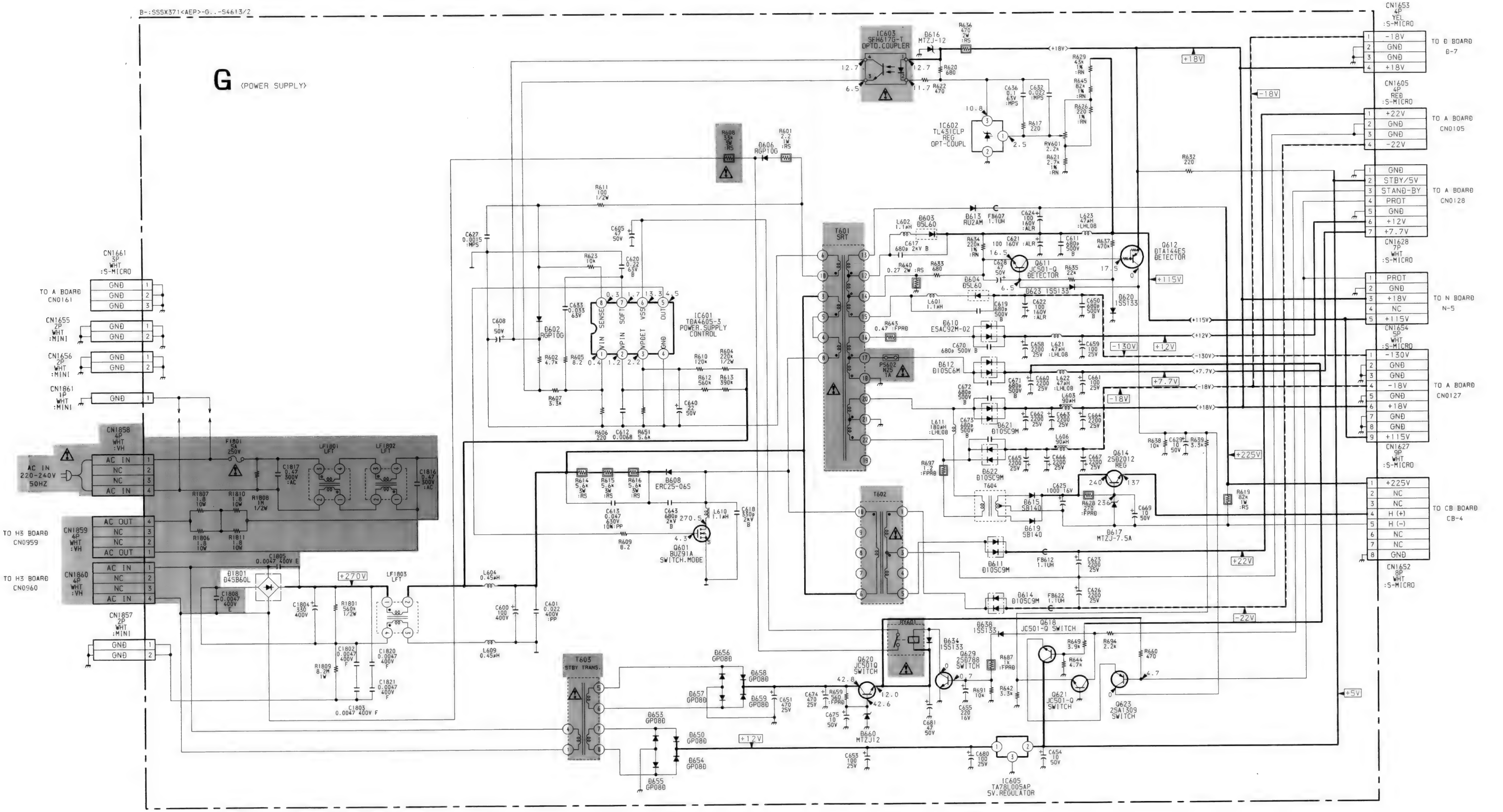

VM
SONY
1-653-060-11 (1-708-958-11)
IC1551
IC1552

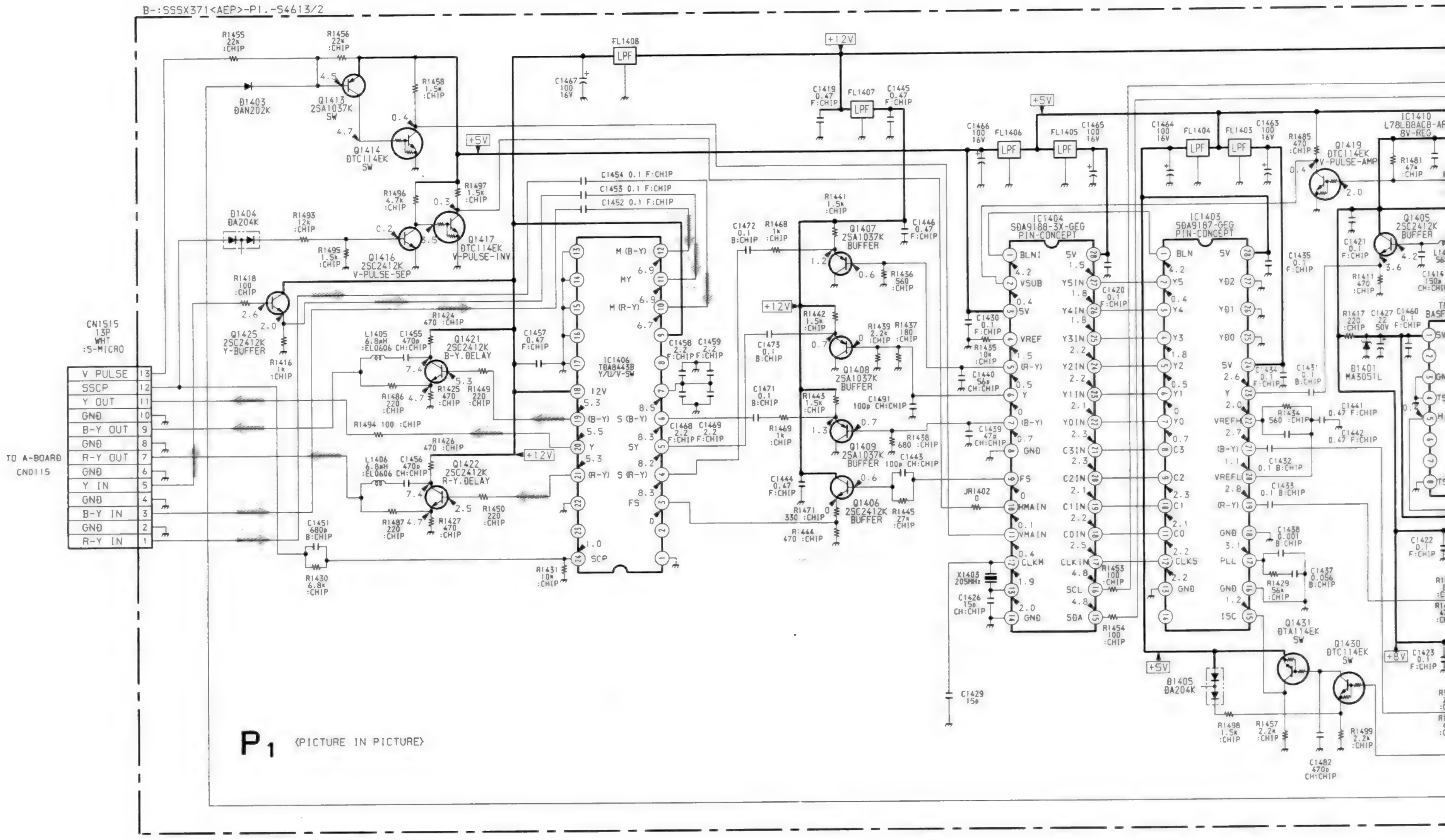
— DS BOARD —

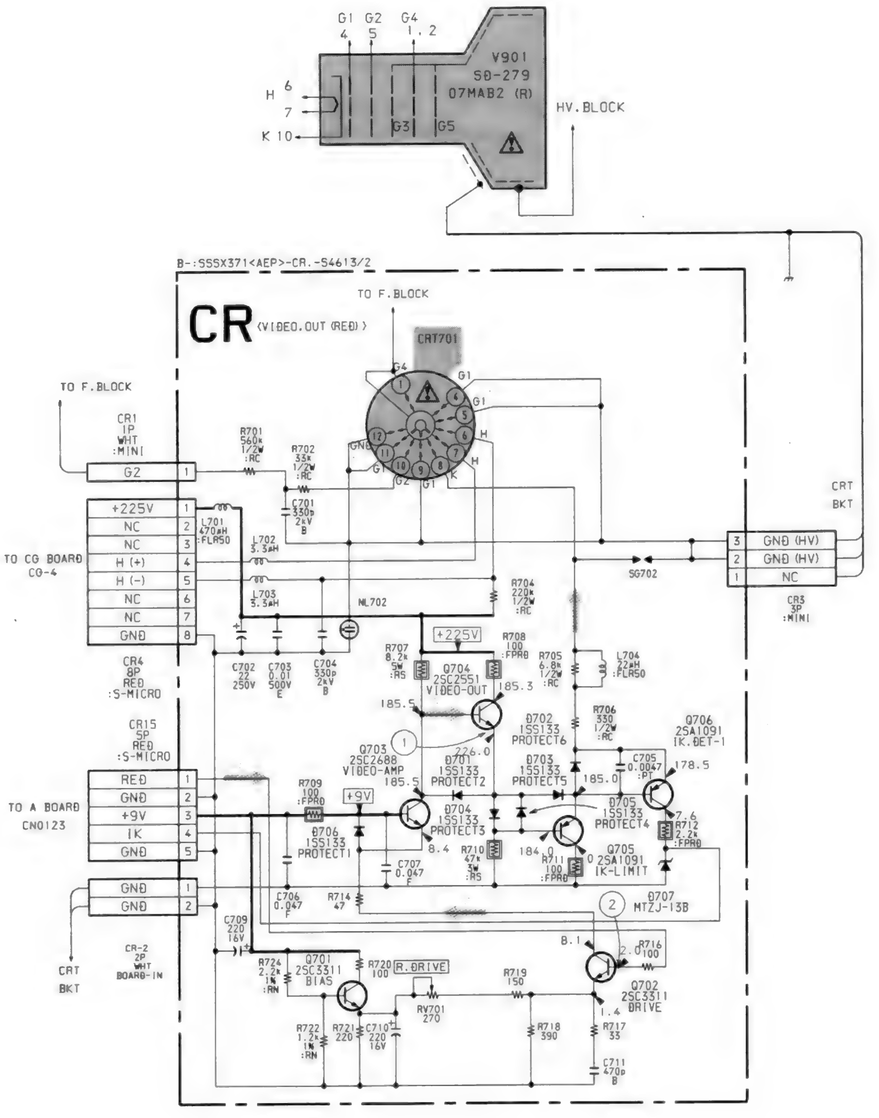

1-650-883-11
SONY
DS
IC1801

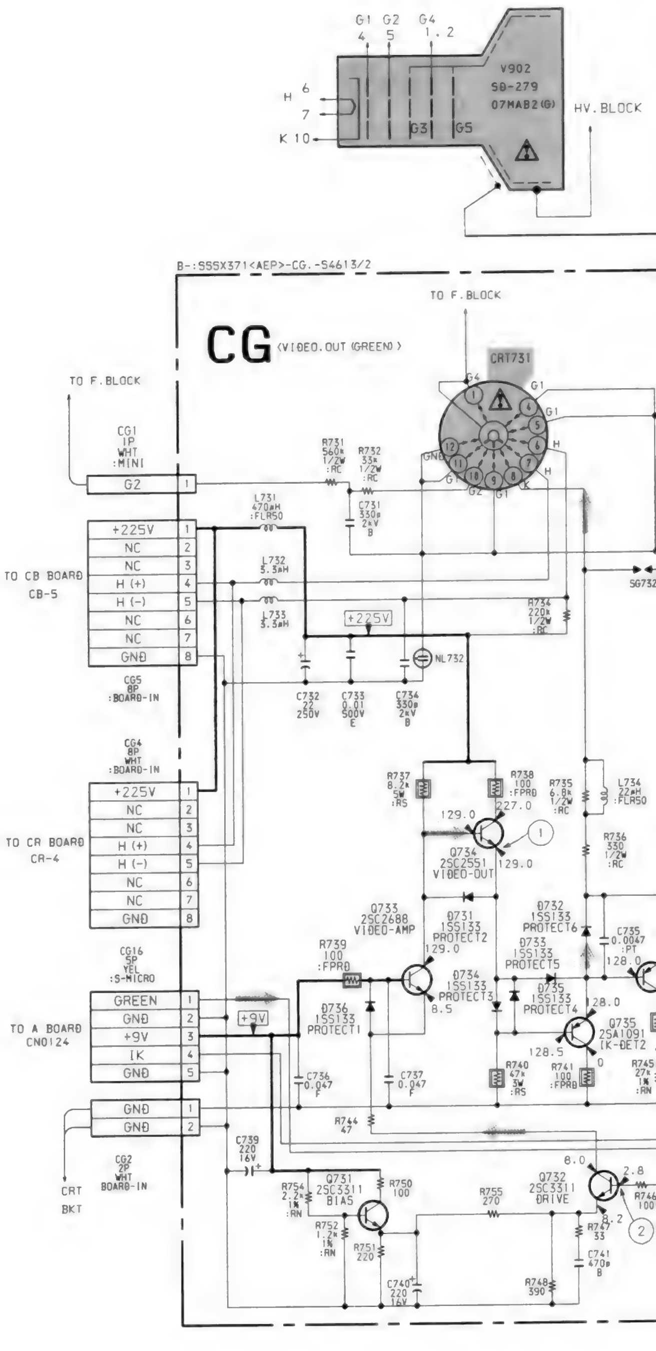

B-:SSSX371<AEP>-VM.-S4613/2
VM
(VM AMP)
+115V
+12V
+VCC
-VCC
Q1504 2SC3311 HPF
Q1505 2SA1309 VM-AMP1
Q1506 2SC3311 VM-AMP2
Q1507 2SC3311 VM-AMP3
Q1508 2SC3733 VM-BUFF
Q1501 2SA1837 VM-DRIVE (+)
Q1502 2SC4793 VM-DRIVE (-)
Q1503 2SC3311 VM-MUTE
D1502 1SS133 LEVEL-SHIFT
D1503 1SS133 LIMITTER (-)
D1504 1SS133 LIMITTER (+)
D1505 1SS133 CORING (+)
D1506 1SS133 CORING (-)
D1507 MTZJ BIAS (+)
D1508 MTZJ BIAS (-)
D1509 1SS133 BUS-SW
IC1551 μPC4558C R.CENT (H)
IC1552 MB3614 G.B.CENT (H)
Q1551 2SD1406 R-DRIVE (+)
Q1552 2SB1015 R-DRIVE (-)
Q1553 2SD1406 B-DRIVE (+)
Q1554 2SB1015 B-DRIVE (-)
Q1555 2SD1406 G-DRIVE (+)
Q1556 2SB1015 G-DRIVE (-)
V22 20P WHT BT08-P
TO A BOARD CN0103
1 NC
2 GND
3 -VCC
4 GND
5 +VCC
6 B-H
7 HGC
8 GND
9 +12V
10 VM.SW
11 +115V
12 VM.IN
13 VM.MUTE
14 HRC
15 HBC
16 R-H
17 R.HDY (-)
18 G.HDY (-)
19 B.HDY (-)
20 NC
3 VM (+)
2 NC
1 RET (-)
TO ZR BOARD ZR-3
V2 3P REB-L :S-MICRO


B-:SSSX371<AEP>-DS.-S4613/2
IC1801 CA0007AD H/V SIN., WAVE GEN
Ds
H/V SIN. WAVE GEN
-5V
+5V
R1841 6.8k 1% :RN
R1842 27k 1% :RN
R1844 10k 1% :RN
R1850 2.2k 1% :RN
R1851 1.0k 1% :RN
C1841 22 25V
C1842 22 25V
D1841 1SS119
D1842 1SS119
D1843 1SS119
D1844 1SS119
1 GND
2 H.SIN
3 V.SIN
4 GND
5 -5V
6 GND
7 +5V
8 H.SAW (+)
9 H.PARA (+)
10 V.SAW (-)
11 V.PARA (+)
12 GND
DS6 12P
TO D BOARD D6

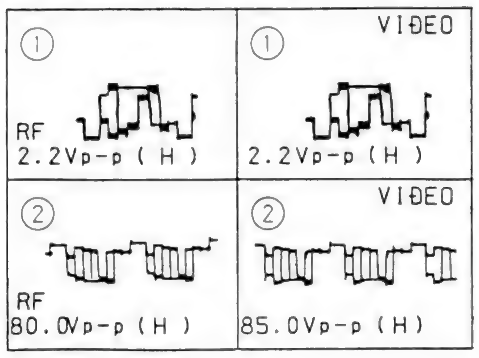

B-:SSSX371<AEP>-G..-S4613/2
G (POWER SUPPLY)
CN1661 3P WHT :S-MICRO
TO A BOARD CN0161
GND
CN1655 2P WHT :MINI
CN1656 2P WHT :MINI
CN1861 1P WHT :MINI
CN1858 4P WHT :VH
AC IN 220-240V 50HZ
AC IN
NC
AC OUT
TO H3 BOARD CN0959
CN1859 4P WHT :VH
TO H3 BOARD CN0960
CN1860 4P WHT :VH
CN1857 2P WHT :MINI
F1801 5A 250V
C1817 0.47 300V :AC
LF1801 LFT
LF1802 LFT
C1816 0.47 300V :AC
R1807 1.8 10W
R1810 1.8 10W
R1808 1M 1/2W
R1806 1.8 10W
R1811 1.8 10W
C1805 0.0047 400V E
D1801 D4SB60L
C1808 0.0047 400V E
+270V
C1804 330 400V
R1801 560k 1/2W
LF1803 LFT
R1809 8.2M 1W
C1802 0.0047 400V F
C1820 0.0047 400V F
C1821 0.0047 400V F
C1803 0.0047 400V F
L604 0.45µH
L609 0.45µH
C600 100 400V
C601 0.022 400V :PP
T603 STBY TRANS.
C627 0.0015 :MPS
R611 100 1/2W
C605 47 50V
R623 10k
C620 0.22 63V B
C633 0.033 63V
C608 50V
D602 RGP10G
R602 4.7k
R605 8.2
IC601 TDA4605-3 POWER SUPPLY CONTROL
SENSE SOFT VSS OUT VIN VPIN VPDET GND
R610 120k
R604 220k 1/2W
R612 560k
R613 390k
R607 3.3k
C640 22 50V
R606 220
C612 0.0068
R651 5.6k
R608 3.3k 5W :RS
D606 RGP10G
R601 2.2 1W :RS
R614 5.6k 5W :RS
R615 5.6k 5W :RS
R616 5.6k 5W :RS
D608 ERC25-06S
C613 0.047 630V 10%:PP
C643 680p 2kV B
L610 1.1µH
C618 330p 2kV B
R609 8.2
Q601 BUZ91A SWITCH.MODE
IC603 SFH617G-T OPTO.COUPLER
D616 MTZJ-12
R636 470 2W :RS
R620 680
R622 470
C636 0.1 63V :MPS
C632 0.022 :MPS
IC602 TL431CLP REG OPT-COUPL
R617 220
RV601 2.2k
R621 2.7k 1% :RN
R629 43k 1% :RN
R645 82k 1% :RN
R626 220 1% :RN
R632 220
T601 SRT
L602 1.1µH
D603 D5L60
C617 680p 2kV B
R640 0.27 2W :RS
D613 RU2AM
FB607 1.1UH
C624 100 160V :ALR
L623 47µH :LHL08
R634 220k 1% :RN
C621 100 160V :ALR
C628 47 50V
Q611 JC501-Q DETECTOR
C611 680p 500V B
R637 470k
R633 680
R635 22k
Q612 DTA144ES DETECTOR
D604 D5L60
D623 1SS133
D620 1SS133
L601 1.1µH
C619 680p 500V B
C622 100 160V :ALR
C650 680p 500V B
R643 0.47 :FPRD
D610 ESAC92M-02
PS602 N25 1A
C670 680p 500V B
C658 2200 25V
L621 47µH :LHL08
C659 100 25V
D612 D10SC6M
C671 680p 500V B
C660 2200 25V
L622 47µH :LHL08
C661 100 25V
C672 680p 500V B
L603 90µH
C673 680p 500V B
D621 D10SC9M
C662 2200 25V
C663 2200 25V
C664 2200 25V
L611 180µH :LHL08
L606 90µH
C665 2200 25V
C666 2200 25V
C667 2200 25V
Q614 2SD2012 REG
R697 1.2 :FPRD
D622 D10SC9M
T604
C625 1000 16V
R628 270 :FPRD
D615 SB140
D619 SB140
D617 MTZJ-7.5A
C669 10 50V
R638 10k
C629 10 50V
R639 3.3k
R619 82k 1W :RS
T602
D611 D10SC9M
FB612 1.1UH
C623 2200 25V
D614 D10SC9M
FB622 1.1UH
C626 2200 25V
RY601
D638 1SS133
Q618 JC501-Q SWITCH
D634 1SS133
Q629 2SD768 SWITCH
R687 1k :FPRD
R649 3.9k
R694 2.2k
R660 470
R644 4.7k
R691 10k
R642 3.3k
C655 220 16V
Q621 JC501-Q SWITCH
Q623 2SA1309 SWITCH
D656 GP08D
D658 GP08D
D657 GP08D
D659 GP08D
C651 470 25V
C674 470 25V
R659 560 :FPRD
C675 10 50V
Q620 JC501Q SWITCH
D660 MTZJ12
C681 47 50V
D653 GP08D
D650 GP08D
D654 GP08D
D655 GP08D
+12V
C653 100 25V
C680 100 25V
C654 10 50V
IC605 TA78L005AP 5V.REGULATOR
+18V
-18V
+115V
-130V
+12V
+7.7V
+225V
+22V
-22V
+5V
CN1653 4P YEL :S-MICRO
-18V GND GND +18V
TO D BOARD D-7
CN1605 4P RED :S-MICRO
+22V GND GND -22V
TO A BOARD CN0105
GND STBY/5V STAND-BY PROT GND +12V +7.7V
TO A BOARD CN0128
CN1628 7P WHT :S-MICRO
PROT GND +18V NC +115V
TO N BOARD N-5
CN1654 5P WHT :S-MICRO
-130V GND GND -18V GND +18V GND GND +115V
TO A BOARD CN0127
CN1627 9P WHT :S-MICRO
+225V NC NC H (+) H (-) NC NC GND
TO CB BOARD CB-4
CN1652 8P WHT :S-MICRO


B-:SSSX371<AEP>-P1.-S4613/2
P1 (PICTURE IN PICTURE)
TO A-BOARD CN0115
CN1515 13P WHT :S-MICRO
V PULSE
SSCP
Y OUT
GND
B-Y OUT
GND
R-Y OUT
GND
Y IN
GND
B-Y IN
GND
R-Y IN
IC1406 TDA8445B Y/U/V-SW
IC1404 SDA9188-3X-GEG PIP-CONCEPT
IC1403 SDA9187-GEG PIP-CONCEPT
IC1410 L78LO8AC8-AP 8V-REG
Q1413 2SA1037K SW
Q1414 DTC114EK SW
Q1416 2SC2412K V-PULSE-SEP
Q1417 DTC114EK V-PULSE-INV
Q1425 2SC2412K Y-BUFFER
Q1421 2SC2412K B-Y.DELAY
Q1422 2SC2412K R-Y.DELAY
Q1407 2SA1037K BUFFER
Q1408 2SA1037K BUFFER
Q1409 2SA1037K BUFFER
Q1406 2SC2412K BUFFER
Q1419 DTC114EK V-PULSE-AMP
Q1405 2SC2412K BUFFER
Q1431 DTA114EK SW
Q1430 DTC114EK SW
X1403 20.5MHz
+12V
+5V
+8V

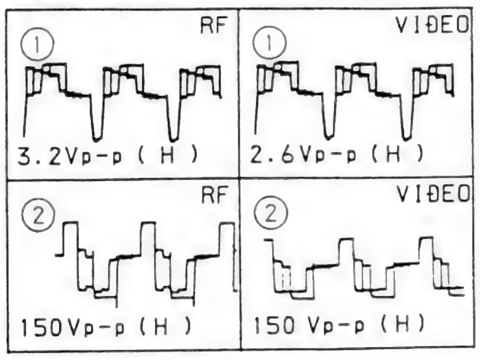

V901 S0-279 07MAB2 (R)
HV.BLOCK
G1 G2 G4
H
K
G3 G5
B-:SSSX371<AEP>-CR.-S4613/2
CR (VIDEO.OUT (RED))
TO F.BLOCK
CRT701
TO CG BOARD CG-4
TO A BOARD CN0123
CR1 1P WHT :MINI
G2
+225V
NC
H (+)
H (-)
GND
CR4 8P RED :S-MICRO
CR15 5P RED :S-MICRO
RED
+9V
IK
CR-2 2P WHT BOARD-IN
CRT BKT
CR3 3P :MINI
GND (HV)
Q704 2SC2551 VIDEO-OUT
Q703 2SC2688 VIDEO-AMP
Q705 2SA1091 IK-LIMIT
Q706 2SA1091 IK.BET-1
Q701 2SC3311 BIAS
Q702 2SC3311 DRIVE
D707 MTZJ-13B
SG702
NL702
RV701 270
R.DRIVE


V902 S0-279 07MAB2(G)
HV.BLOCK
G1 G2 G4
H
K
G3 G5
B-:SSSX371<AEP>-CG.-S4613/2
CG (VIDEO.OUT (GREEN))
TO F.BLOCK
CRT731
TO CB BOARD CB-5
TO CR BOARD CR-4
TO A BOARD CN0124
CG1 1P WHT :MINI
CG5 8P :BOARD-IN
CG4 8P WHT :MINI
CG16 5P YEL :S-MICRO
GREEN
GND
+9V
IK
CG2 2P WHT BOARD-IN
CRT BKT
+225V
Q734 2SC2551 VIDEO-OUT
Q733 2SC2688 VIDEO-AMP
Q735 2SA1091 IK-BET2
Q731 2SC3311 BIAS
Q732 2SC3311 DRIVE
SG732
NL732

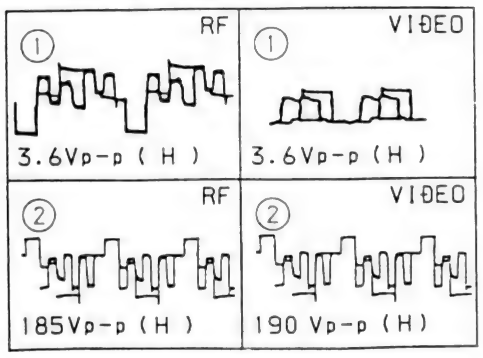
CR BOARD WAVEFORMS

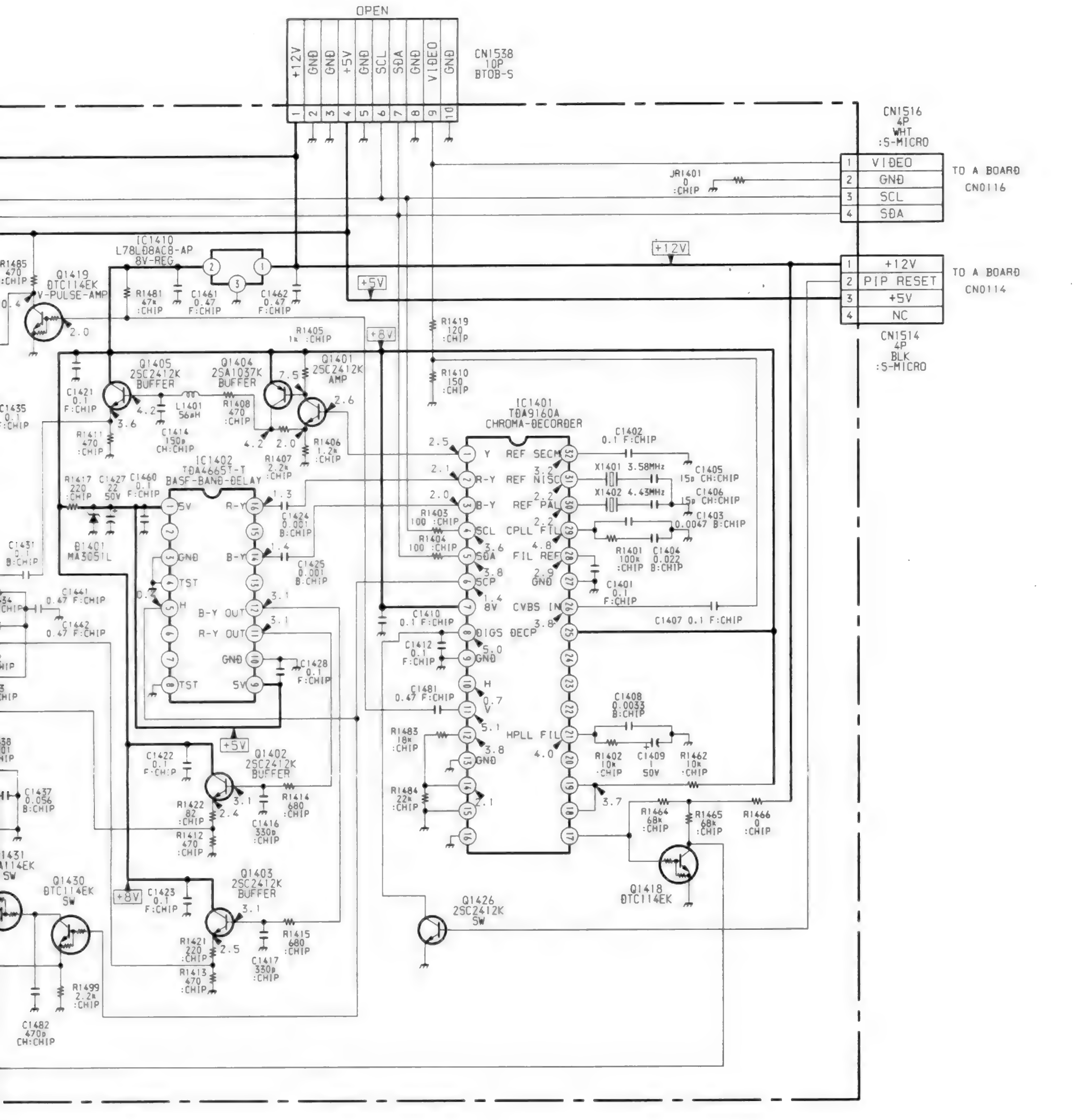


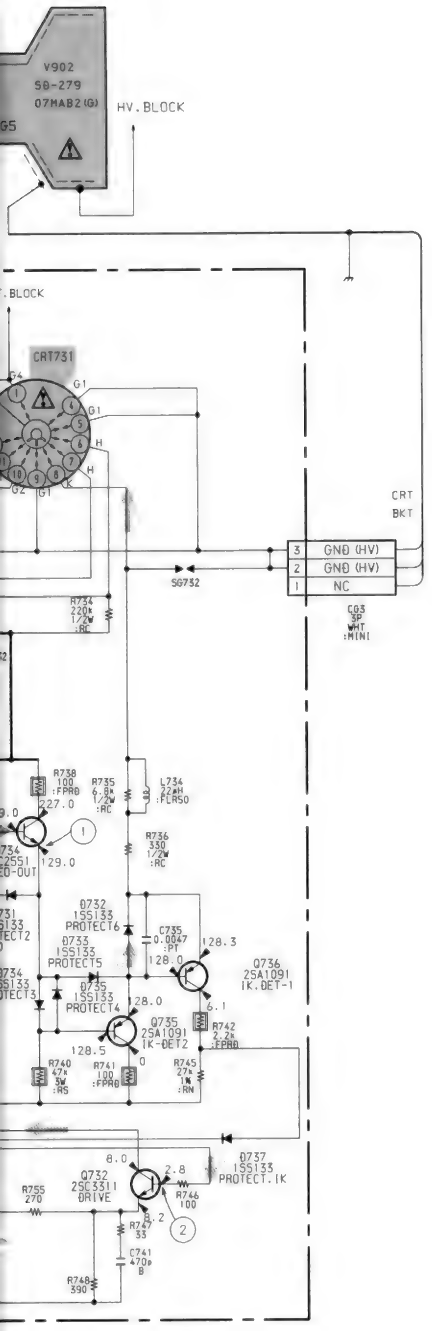
CG BOARD WAVEFORMS

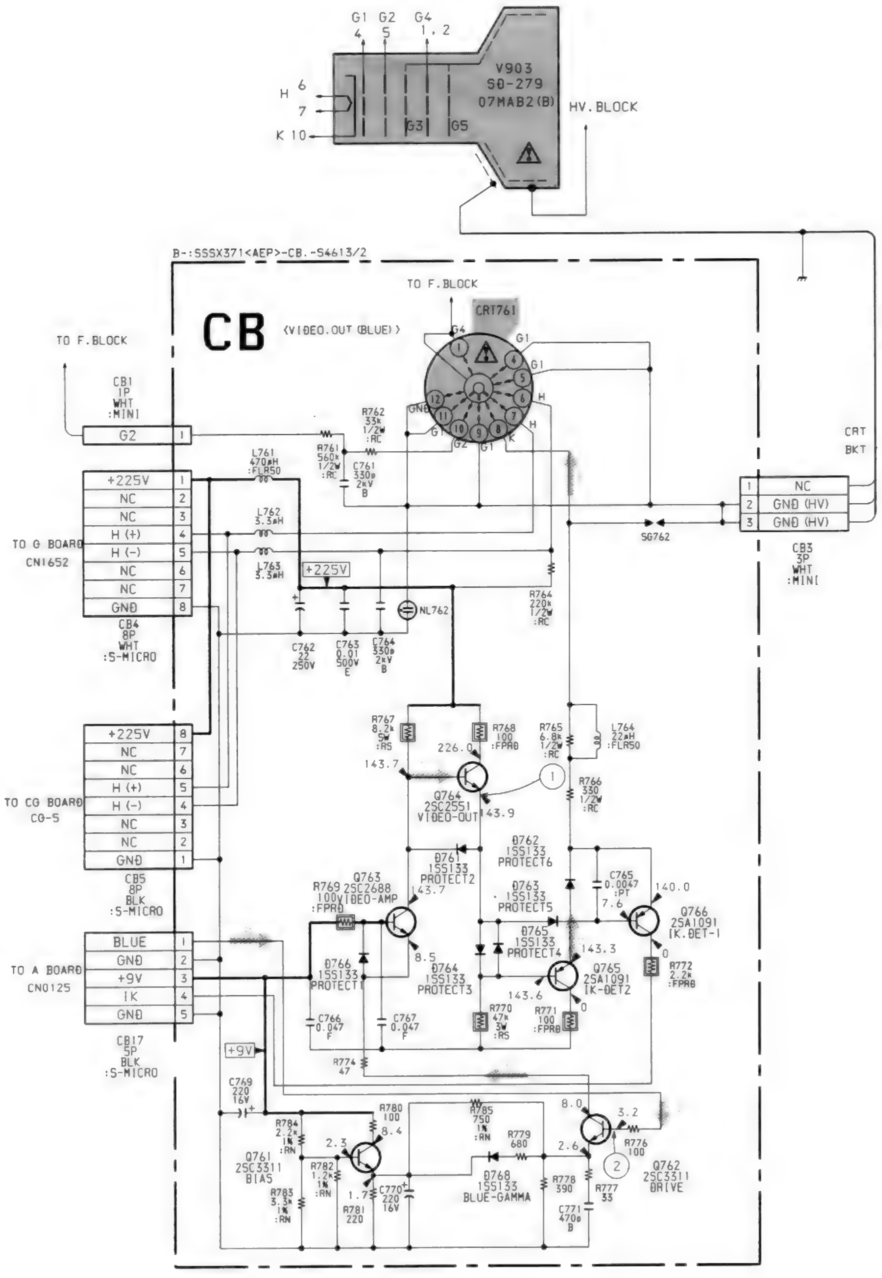


CB BOARD WAVEFORMS



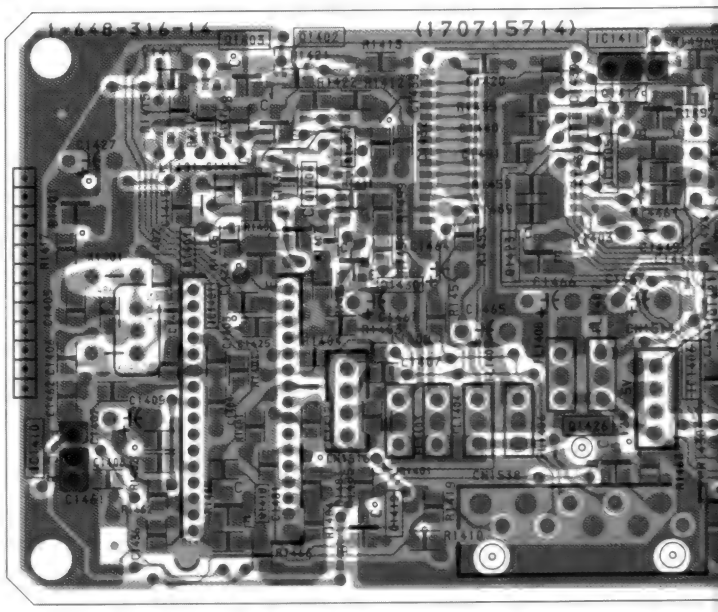

OPEN
CN1538 10P BTOB-S
+12V GND GND +5V GND SCL SDA GND VIDEO GND
CN1516 4P WHT :S-MICRO
VIDEO
GND
SCL
SDA
TO A BOARD CN0116
+12V
PIP RESET
+5V
NC
TO A BOARD CN0114
CN1514 4P BLK :S-MICRO
IC1410 L78LO8ACB-AP 8V-REG
Q1419 DTC114EK V-PULSE-AMP
Q1405 2SC2412K BUFFER
Q1404 2SA1037K
Q1401 2SC2412K AMP
IC1401 TDA9160A CHROMA-DECORDER
IC1402 TDA4665T-T BASF-BAND-DELAY
X1401 3.58MHz
X1402 4.43MHz
Q1402 2SC2412K BUFFER
Q1403 2SC2412K BUFFER
Q1426 2SC2412K SW
Q1418 DTC114EK
Q1430 DTC114EK SW
D1401 MA3051L

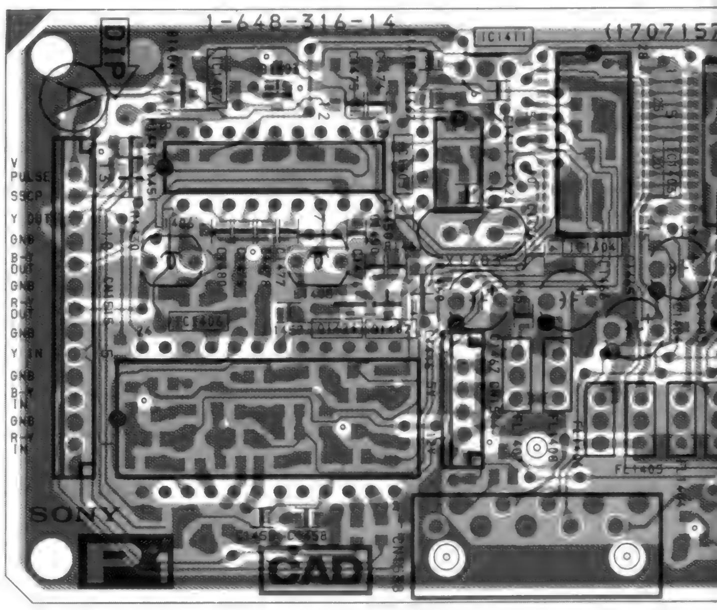

V902 SG-279 07MAB2(G)
HV. BLOCK
CRT731
GND (HV)
GND (HV)
NC
CRT BKT
CG3 3P WHT :MINI
Q731 2SC2551 VIDEO-OUT
Q736 2SA1091 IK. DET-1
Q735 2SA1091 IK-DET2
Q732 2SC3311 DRIVE
D737 1SS133 PROTECT. IK


G1 G2 G4
V903 SG-279 07MAB2(B)
HV. BLOCK
B-:SSSX371<AEP>-CB.-S4613/2
TO F. BLOCK
CB (VIDEO. OUT (BLUE))
CRT761
CB1 1P WHT :MINI
G2
+225V
NC
NC
H (+)
H (-)
NC
NC
GND
TO G BOARD CN1652
CB4 8P WHT :S-MICRO
TO CO BOARD CO-5
CB5 8P BLK :S-MICRO
BLUE
GND
+9V
IK
GND
TO A BOARD CN0125
CB17 5P BLK :S-MICRO
NC
GND (HV)
GND (HV)
CRT BKT
CB3 3P WHT :MINI
Q764 2SC2551 VIDEO-OUT
Q763 2SC2688 VIDEO-AMP
Q766 2SA1091 IK. DET-1
Q765 2SA1091 IK-DET2
Q761 2SC3311 BIAS
Q762 2SC3311 DRIVE
D768 1SS133 BLUE-GAMMA

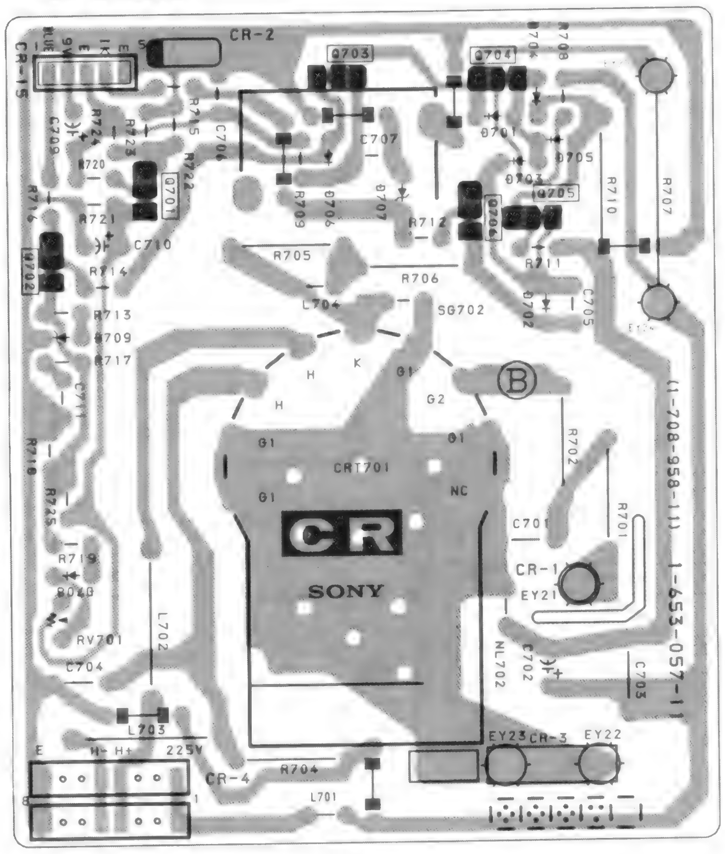
P1 [PICTURE IN PICTURE] CR [VIDEO.OUT (RED)

— P1 BOARD —


1-648-316-14
(170715714)

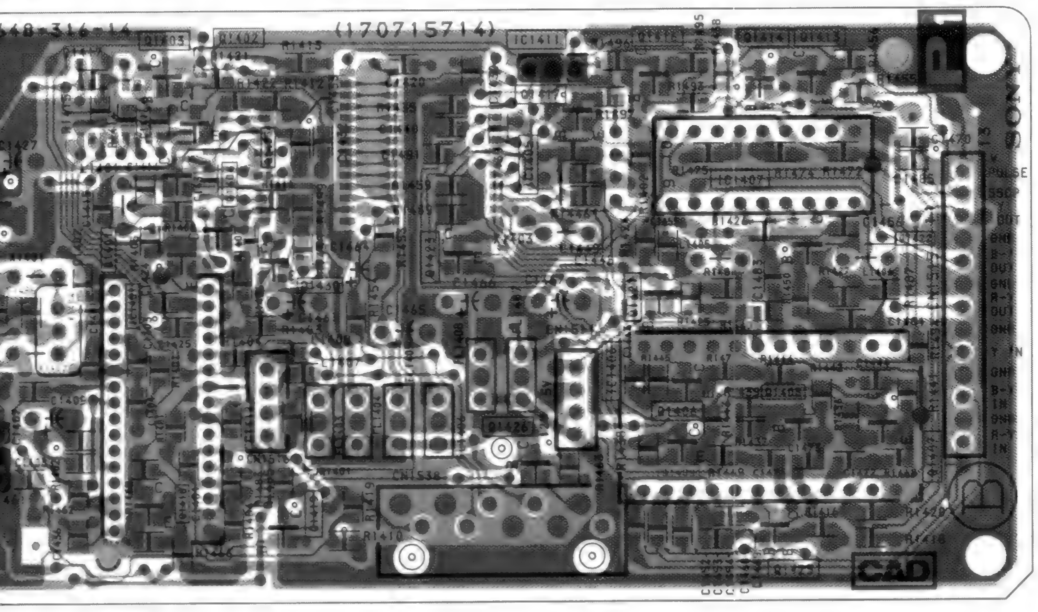

1-648-316-14
V PULSE
SSCP
Y OUT
GND
B-Y OUT
GND
R-Y OUT
GND
Y IN
GND
B-Y IN
GND
R-Y IN
SONY
P1
CAD

— CR BOARD —

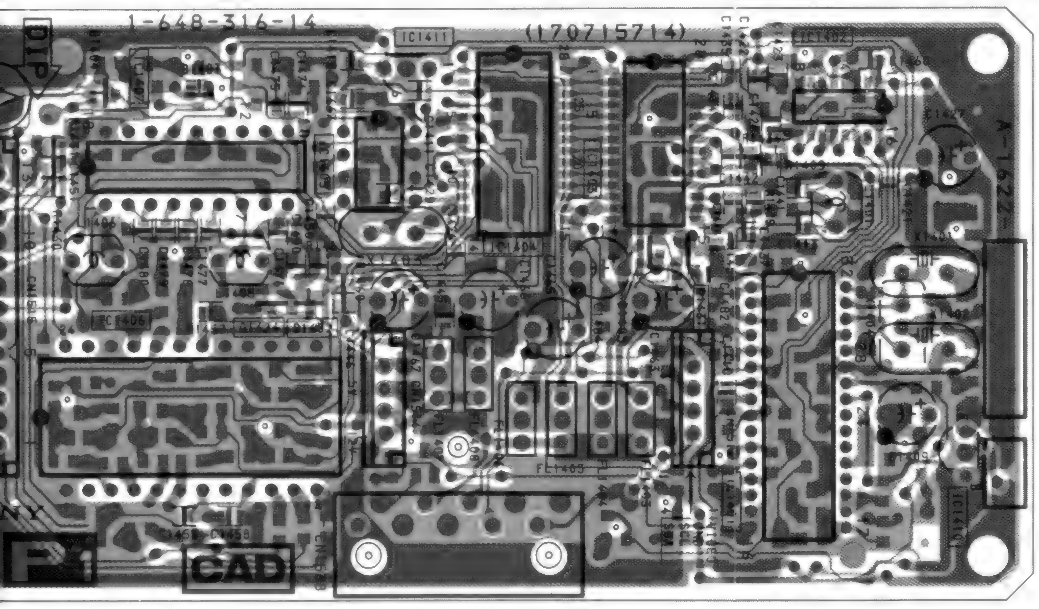

CR-2
CR-1
CR-3
CR-4
CRT701
CR
SONY
1-653-057-11
(1-708-958-11)
EY21
EY22
EY23

[PICTURE IN PICTURE] **CR** [VIDEO.OUT (RED)] **CG** [VIDEO.OUT (GREEN)] **CB** [VIDEO.OUT (BLUE)]

BOARD —



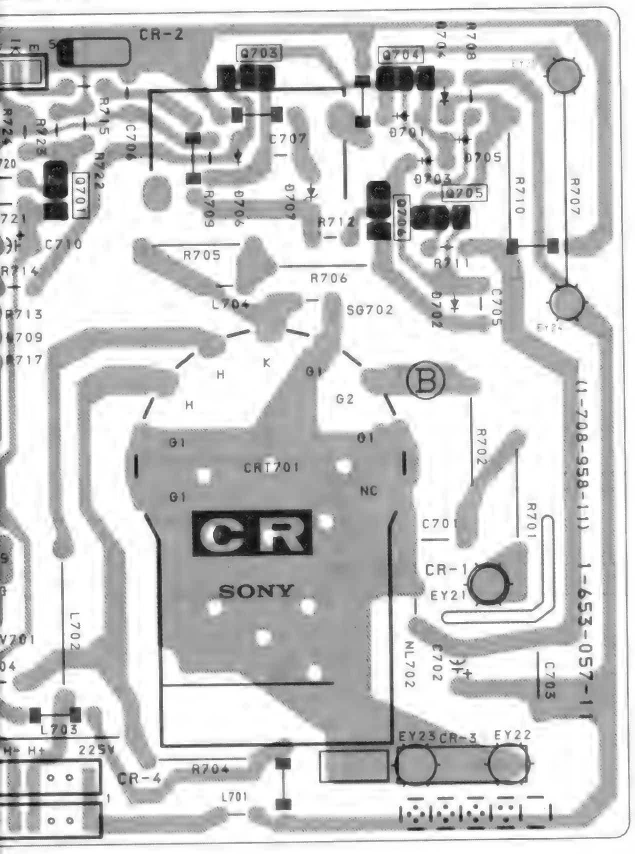
1-648-316-14
(170715714)
SONY
CAD



1-648-316-14
(170715714)
A-1622
CAD

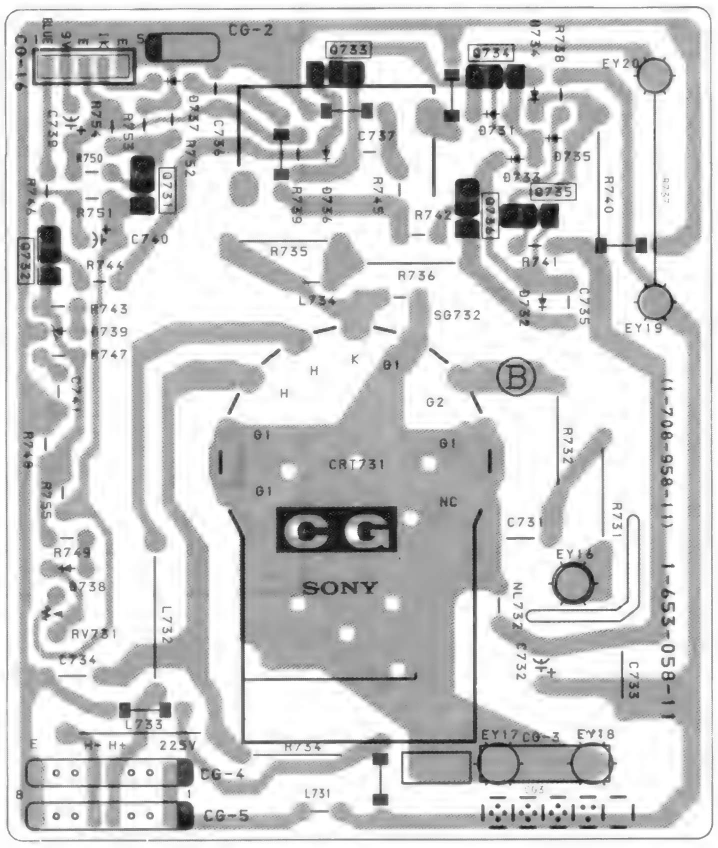
- ▨ : Pattern from the side which enables seeing.
- ■ : Pattern of the rear side.

BOARD —



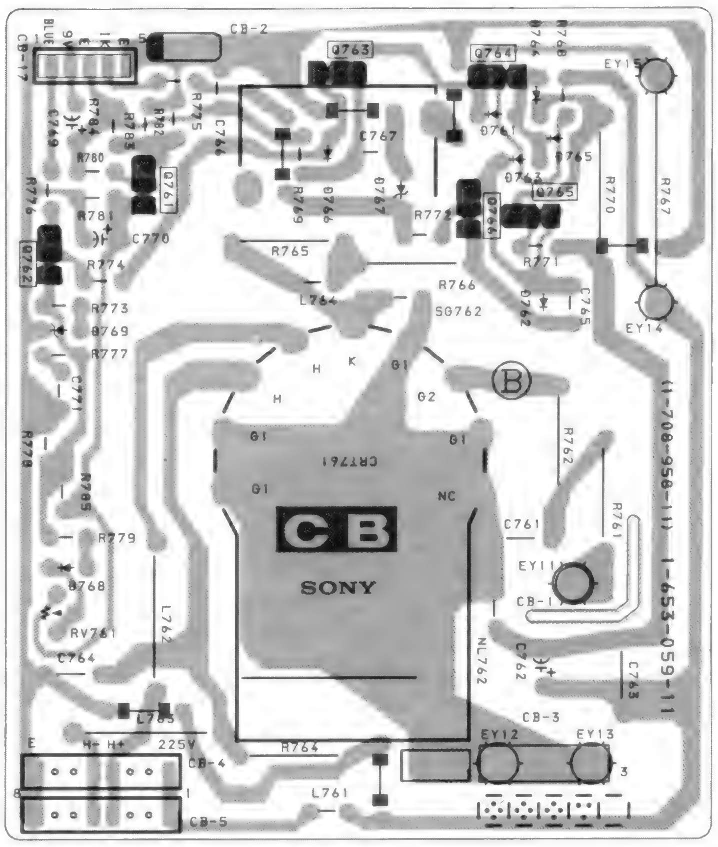
CR-2
CRT701
CR
SONY
(1-708-958-11)
1-653-057-11

— CG BOARD —

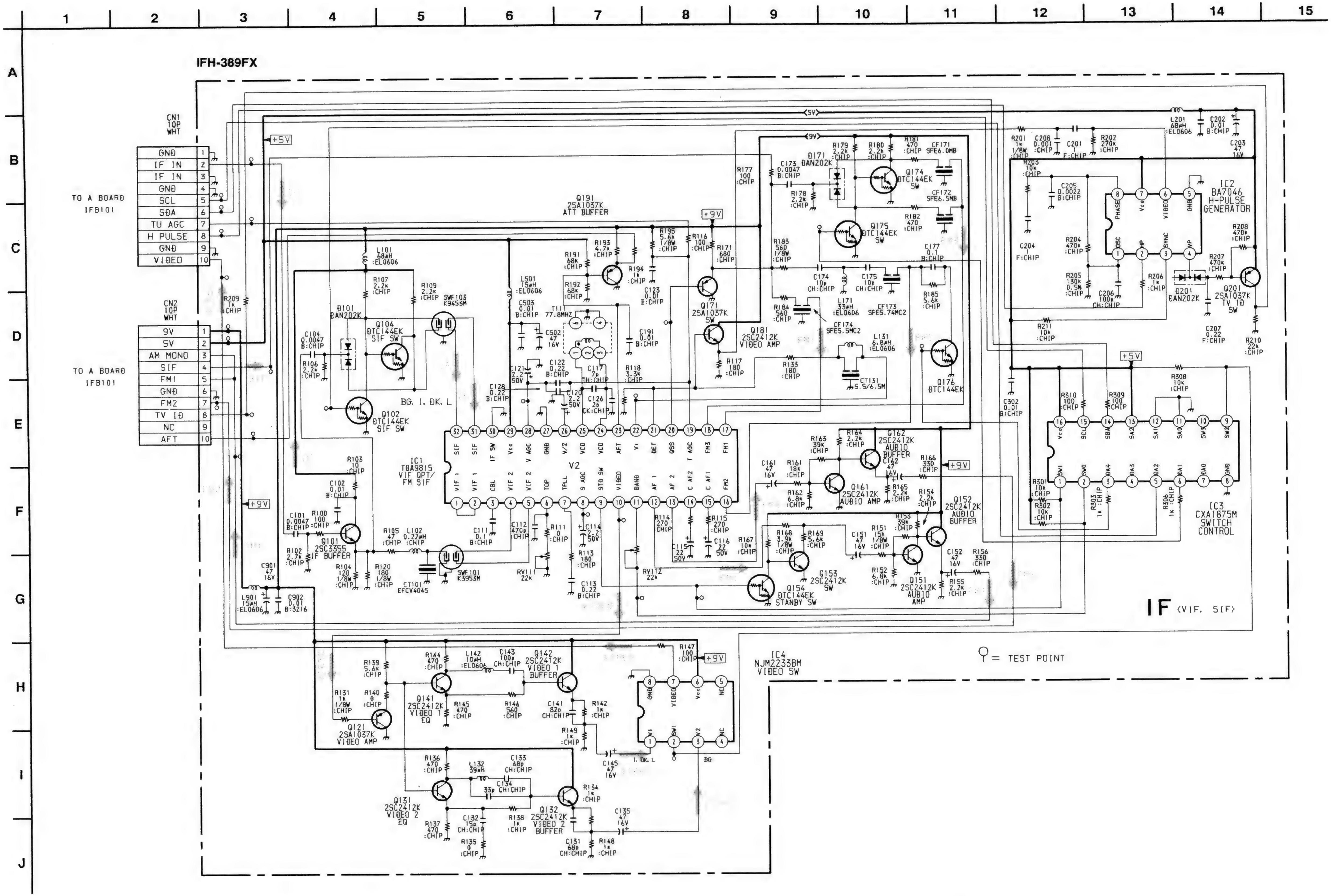


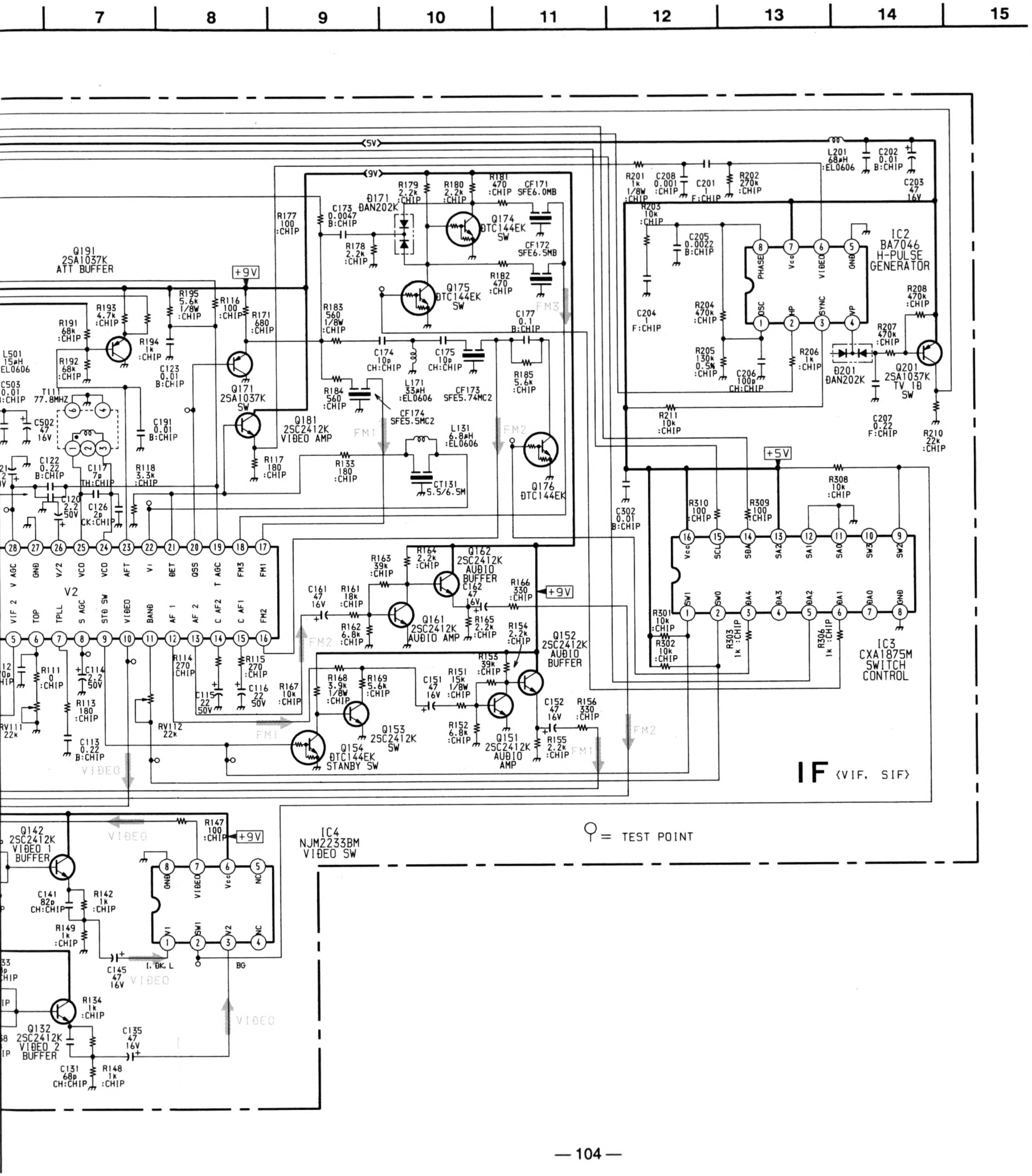
CG-2
CRT731
CG
SONY
(1-708-958-11)
1-653-058-11

— CB BOARD —



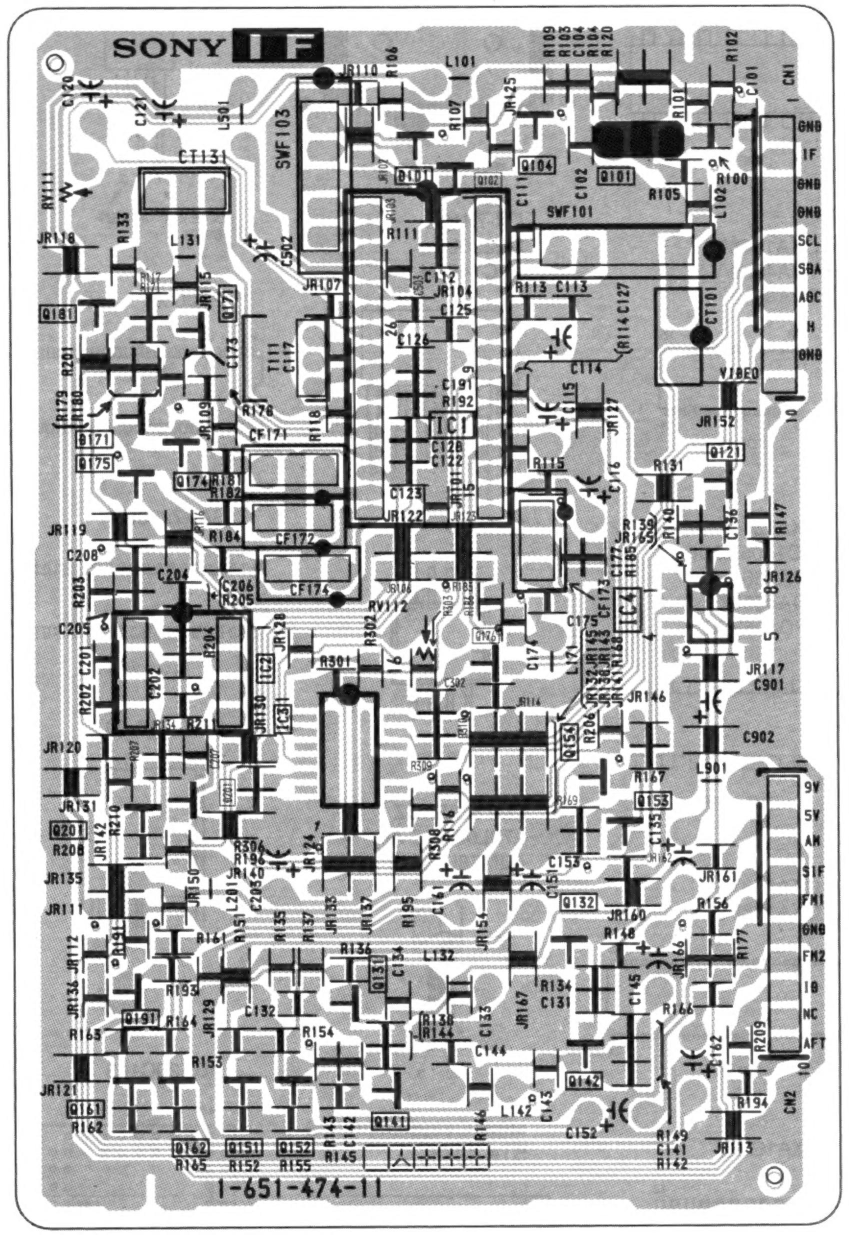
CB-2
CRT761
CB
SONY
(1-708-958-11)
1-653-059-11


IFH-389FX
IF (VIF, SIF)
⚲ = TEST POINT
CN1 10P WHT
TO A BOARD IFB101
GND
IF IN
IF IN
GND
SCL
SDA
TU AGC
H PULSE
GND
VIDEO
CN2 10P WHT
TO A BOARD IFB101
9V
5V
AM MONO
SIF
FM1
GND
FM2
TV ID
NC
AFT
IC1 TDA9815 VIF QPT/ FM SIF
IC2 BA7046 H-PULSE GENERATOR
IC3 CXA1875M SWITCH CONTROL
IC4 NJM2233BM VIDEO SW
Q101 2SC3355 IF BUFFER
Q102 DTC144EK SIF SW
Q104 DTC144EK SIF SW
Q121 2SA1037K VIDEO AMP
Q131 2SC2412K VIDEO 2 EQ
Q132 2SC2412K VIDEO 2 BUFFER
Q141 2SC2412K VIDEO 1 EQ
Q142 2SC2412K VIDEO 1 BUFFER
Q151 2SC2412K AUDIO AMP
Q152 2SC2412K AUDIO BUFFER
Q153 2SC2412K SW
Q154 DTC144EK STANBY SW
Q161 2SC2412K AUDIO AMP
Q162 2SC2412K AUDIO BUFFER
Q171 2SA1037K SW
Q174 DTC144EK SW
Q175 DTC144EK SW
Q176 DTC144EK
Q181 2SC2412K VIDEO AMP
Q191 2SA1037K ATT BUFFER
Q201 2SA1037K TV ID SW
D101 DAN202K
D171 DAN202K
D201 DAN202K
SWF101 K3953M
SWF103 K9453M
CT101 EFCV4045
CT131 5.5/6.5M
CF171 SFE6.0MB
CF172 SFE6.5MB
CF173 SFE5.74MC2
CF174 SFE5.5MC2
T111 77.8MHZ
BG, I, DK, L
I, DK, L
BG
+5V
+9V
5V
9V


7
8
9
10
11
12
13
14
15
5V
9V
+9V
+5V
Q191 2SA1037K ATT BUFFER
Q171 2SA1037K SW
Q181 2SC2412K VIDEO AMP
D171 DAN202K
Q174 DTC144EK SW
Q175 DTC144EK SW
Q176 DTC144EK
CF171 SFE6.0MB
CF172 SFE6.5MB
CF173 SFE5.74MC2
CF174 SFE5.5MC2
L171 33μH :EL0606
L131 6.8μH :EL0606
CT131 5.5/6.5M
T111 77.8MHZ
L501 15μH :EL0606
IC2 BA7046 H-PULSE GENERATOR
PHASE
Vcc
VIDEO
GND
OSC
HP
SYNC
VP
D201 DAN202K
Q201 2SA1037K TV ID SW
L201 68μH :EL0606
IC3 CXA1875M SWITCH CONTROL
Vcc
SCL
SDA
SA2
SA1
SA0
SW3
SW2
SW1
SW0
DA4
DA3
DA2
DA1
DA0
GND
V2
V AGC
GND
V/2
VCO
VCO
AFT
VI
DET
QSS
T AGC
FM3
FM1
VIF 2
TOP
TPLL
S AGC
STD SW
VIDEO
BAND
AF 1
AF 2
C AF2
C AF1
FM2
Q162 2SC2412K AUDIO BUFFER
Q161 2SC2412K AUDIO AMP
Q152 2SC2412K AUDIO BUFFER
Q151 2SC2412K AUDIO AMP
Q153 2SC2412K SW
Q154 DTC144EK STANBY SW
RV111 22k
RV112 22k
FM1
FM2
FM3
VIDEO
Q142 2SC2412K VIDEO 1 BUFFER
Q132 2SC2412K VIDEO 2 BUFFER
IC4 NJM2233BM VIDEO SW
GND
VIDEO
Vcc
NC
V1
SW1
V2
NC
I. BK. L
BG
IF (VIF. SIF)
= TEST POINT

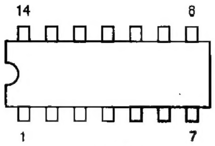
IF [VIF, SIF]

–IF BOARD–


SONY IF
1-651-474-11
IC1
IC2
IC3
IC4
SWF101
SWF103
CT131
CF171
CF172
CF173
CF174
T111
CN1
CN2
GND
IF
GND
GND
SCL
SDA
AGC
H
GND
VIDEO
9V
5V
AM
SIF
FM1
GND
FM2
IB
NC
AFT

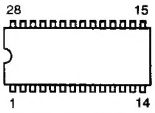
5-4. SEMICONDUCTORS

CA0007AD
LM324N
MB3614
µPC1394C



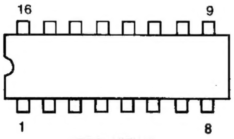
(TOP VIEW)

CXA1268P
TDA4650/V4
TDA6612



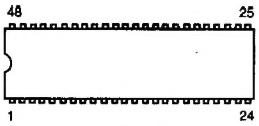
(TOP VIEW)

CXA1315P
MC14053BCP
TDA4661
TDA4665T
µPD4053BC



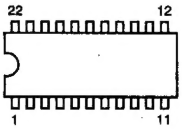
(TOP VIEW)

CXA1587S
CXA1855S



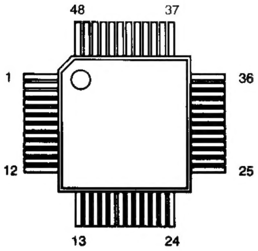
(TOP VIEW)

CXA1656S



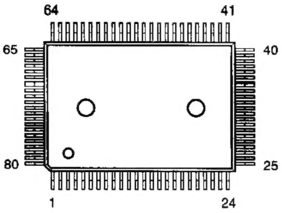
(TOP VIEW)

CXD2018Q


48
37
1
36
12
25
13
24

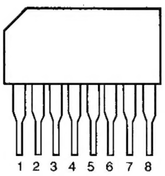
(TOP VIEW)

CXD2024Q

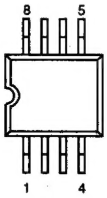

64
41
65
40
80
25
1
24

(MARKING SIDE VIEW)

CX-7948A
M5220L
µPC1498H

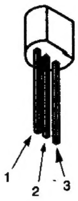


LM358D

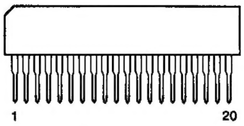


(TOP VIEW)

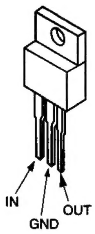
LM78L05ACZ
L78L08ACZ-AP
NJM78L05A



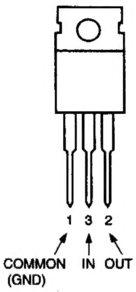
MB81C4256A-70PSZG
STK-4278L



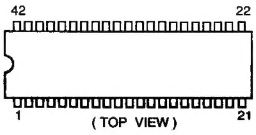
MCT7809CT
MCT7812CT
NJM78M05FA
TA7812S
µPC2405HF



NJM79M05FA
NJM7915FA

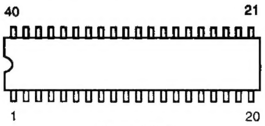

1 3 2
COMMON
(GND)
IN
OUT

PA0036



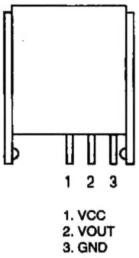
(TOP VIEW)

SAA7282P

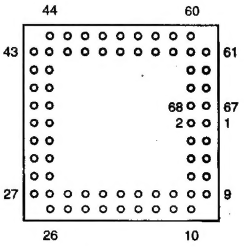


(TOP VIEW)

SBX1810-09

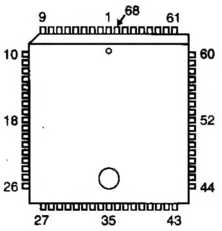

1 2 3
1. VCC
2. VOUT
3. GND

SDA30C163


44
60
43
61
68
67
2
1
27
9
26
10

(BOTTOM VIEW)

SDA5273P


9
1
68
61
10
60
18
52
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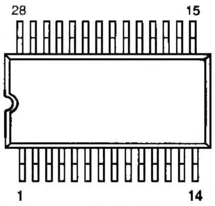
44
27
35
43

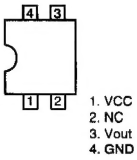
(TOP VIEW)

SDA9087XGEG
SDA9188XGEG

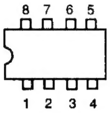


(TOP VIEW)

SFH617G

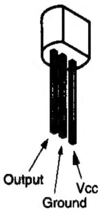

4
3
1
2
1. VCC
2. NC
3. Vout
4. GND

ST24C16CB1
TDA2822M
TDA4605
TEA2114
TL082ACP
µPC393C
µPC4082C
µPC4558C

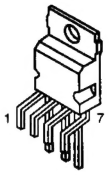


(TOP VIEW)

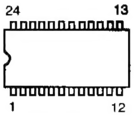
TA78L005AP


Output
Vcc
Ground

TDA2052

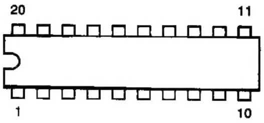


TDA8443B
TDA9145



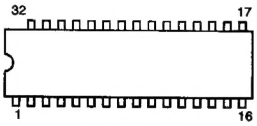
(TOP VIEW)

TDA8732



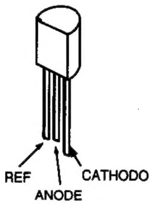
(TOP VIEW)

TDA9160A

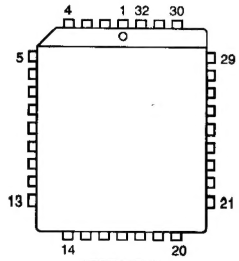


(TOP VIEW)

TL431CLP

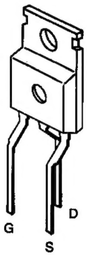

REF
CATHODO
ANODE

TMS27PC010A15FMA


4
1
32
30
5
29
13
21
14
20

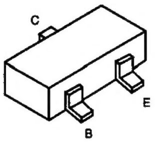
(TOP VIEW)

BUZ91A-E3155

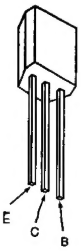


DTA124EK
DTA144EK
DTC114EK
DTC124EK
DTC144EK

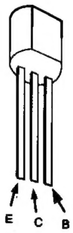
2SA1037K
2SA1162-G
2SC2412K
2SC1623-L5L6
2SC2413K



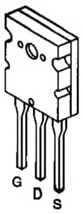
DTA144ES
DTC144ES



JC501
2SA1013-O
2SA1091-O
2SA1837
2SC2551-O
2SD788-5



2SA1301-O



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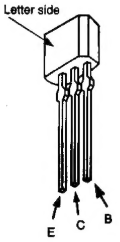
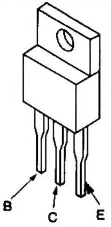
2SA1175-HFE
2SC2785-HFE
2SC3311A-QRS


Letter side
E
C
B

2SB1015
2SB1094-LK
2SC3675
2SD1406-YGF



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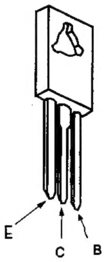
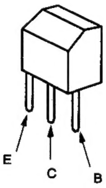
2SC2688-LK



2SC3733



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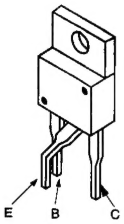
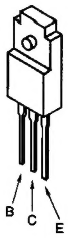
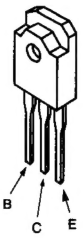


2SC4793



2SC4927



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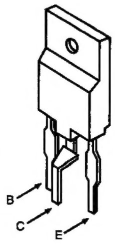
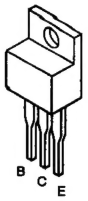
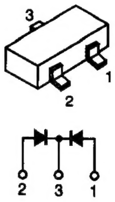


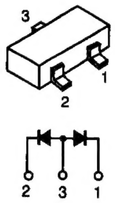
2SD2012



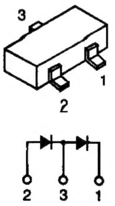
DAN202K



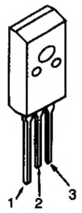
DAP202K



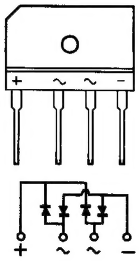
DA204K
1SS226



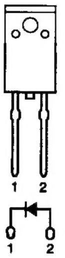
D10SC6M
D10SC9M



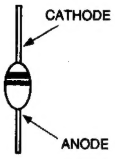
D4SB60L



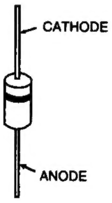
D5L60



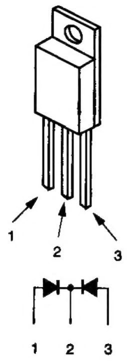
EL1Z
ERC38-08
GP08D
RGP10G
V06C
V09G
V19E
V30N


CATHODE
ANODE

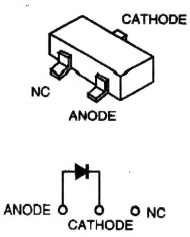
ERC06-15S
ERC25-06S
RU-1C
RU-2AM
RU-3AM
S3V10SB


CATHODE
ANODE

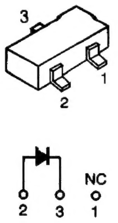
ESAC92M-02



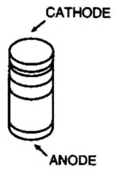
MA3030-H


CATHODE
NC
ANODE
ANODE
CATHODE
NC

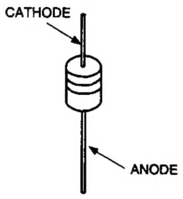
MA3039H
MA3056



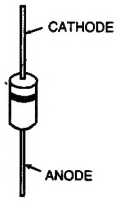
MA3051L


CATHODE
ANODE

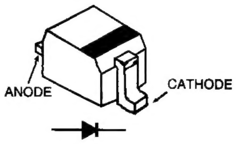
MTZJ-3.9A
MTZJ-5.1B
MTZJ-5.6B
MTZJ-7.5A
MTZJ-9.1
MTZJ-12
MTZJ-13B
MTZJ-13C
MTZJ-22
MTZJ-33C
MTZJ-39B
RD2.0ESB1
RD5.1ESB2
RD5.6ESB2
RD7.5ESB2
RD9.1ESB3
1SS119
1SS133


CATHODE
ANODE

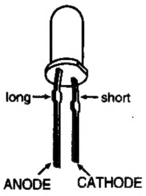
SB140


CATHODE
ANODE

1SV214
1SV217


ANODE
CATHODE

TLR124


long
short
ANODE
CATHODE